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Turnaround strategies in the commercial banking industry.

Hugh Martin O'Neill
University of Massachusetts Amherst

TURNAROUND STRATEGIES IN THE COMMERCIAL BANKING INDUSTRY

A Dissertation Presented

By

HUGH M. O'NEILL

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Approved as to style and content by:

George S. Odiorne

Dr. George S. Odiorne, Chairman of Committee

Dr. Arthur Elkins, Member

Dr. Bernard J. Mullin, Member

William R. Dillon
Director of Doctoral Studies
School of Business Administration

My life has been blessed by Hugh and Evelyn O'Neill, by Ernest and Gertrude Murphy, by Kimberlee Murphy O'Neill and Shannon Marie Murphy O'Neill. This work is dedicated to them, with sincere thanks.

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ABSTRACT

Turnaround Strategies in the Banking Industry

(September, 1980)

Hugh M. O'Neill, B.A., Syracuse University

M.S., Polytechnic Institute of New York

Ph.D., University of Massachusetts

Directed by: Professor George S. Odiorne

This research project uses discriminant analysis to study the process of turnaround in the commercial banking industry.

The Bank Compustat Database provides the sample. The annual net income growth of all banks in the data base is compared to the industry's performance in net income growth. If a bank's annual growth exceeds the industry's, then that year is recorded as a growth year. If a bank's annual growth lags the industry's growth rate, then that year is recorded as a decline year. Banks which exhibit three years of continuous decline provide the base for further analysis.

After a period of three year decline, which is called phase 1, the banks in the sample either turnaround or decline during the next three years. This three year period following phase 1 is called phase 2, and provides the grouping variable for discrimination; a group of turnaround banks is compared to a group of decline banks. The final sample includes 51 banks; 31 are turnaround banks, and 20 are decline banks.

After the sample is identified, the study proceeds through several stages. First, the Bank Compustat Database provides the records of each

bank's performance on twenty three variables over the six year period of the phase 1 and phase 2. These twenty three variables measure eight general classes of performance: profitability, expense control, employee utilization, asset management, revenue enhancement, credit quality control, leverage and loss coverage, and growth measures. Second, the explanatory power of these variables is tested through a regression model. Third, mean growth rates on each variable for the groups are computed and tested for the first three years. Finally, the dimensions of the group differences are analyzed through the use of discriminant analysis.

The discriminant analysis is performed at the first and third year of phase 1 and at the first and third year of phase 2. Where there is significant discrimination, the best set of discriminators is identified through the use of the structure loading matrix. The ten best discriminators are then used in a discriminant analysis. The discriminatory power of other variables not included in this reduced set is assessed by testing the increase they contribute to the Mahalanobis difference between the groups. A discriminant analysis is also performed on factor scores for each general class of performance.

After the quantitative analysis, the public reports available for each bank in the sample are inspected. This qualitative analysis includes such sources as popular journal articles, trade journal articles, annual reports, and special staff reports. This review is used to gain insight into management's perceptions of the turnaround strategy.

The results of the study indicate that the turnaround requires management attention in several key areas. Turnaround banks increase the

amount of net income earned per employee, through the careful control of operating expenses, asset growth, and loan quality. The hypothesis that regional differences, structural differences, or size differences can explain the turnaround process is tested through the use of a dummy regression model. This hypothesis is rejected.

The qualitative review indicates that banks which don't turnaround attempt to enact the same strategies that turnaround banks enact. This unexpected finding leads to two proposed hypotheses for further research. First, it is possible that successful turnaround can be attributed to successful implementation, rather than successful choice, of strategy. Second, it is possible that there are at least two types of decline. Strategies that are successful for one type of decline will not be successful for another type of decline.

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CHAPTER I

INTRODUCTION

Problem Statement

When a large multi million dollar business is in a state of steady decline, what strategies must its management follow to reverse that trend and start it on an upward course? The answers to this question are sought in this research.

This study analyzes strategic responses to continued declines in profitability in commercial banks, as measured by net income. The aim of the study is to identify the response patterns which commercial banks may use to turn around from steady decline to an upward trend of rising net income.

After a comparative study of banks which turned around and banks which didn't, the variables which were changed, manipulated or altered by management are analyzed, and are clustered into strategic patterns which comprise turnaround strategies. Thus, one objective of this research is to identify the content of turnaround strategies.

While the research study is done with banks, we first make an effort to define what might be the basis for turning around the fortunes in the market place of other companies not in banking. Continued decline often precedes failure, and since the possibility of business failure is one which is of concern to society, as well as the employees, creditors, depositors, customers and stockholders of companies which are in a state of

decline, the search for some general strategic principles behind turnaround action is one of some significance and considerable scholarly interest.

The variables studied. Strategic patterns of response are observed through an analysis of the performance of banks on several operating and financial variables. Eight general classes of variables are analyzed: profitability measures, expense control measures, employee utilization measures, asset management, revenue enhancement, credit quality control measures, leverage and loss coverage, and growth measures. Banks which continually decline are compared to banks which enter a period of decline, and then turnaround and enter a period of growth in net income. Decline is operationalized through the comparison of an individual bank's rate of growth in net income to the industry's rate of growth in net income. When a bank's net income has increased at a lesser rate than industry net income, its performance for that year is recorded as a decline. Conversely, when a bank has increased its income at a rate greater than industry growth, its performance is recorded as growth. This operational definition of decline follows the methodology of previous studies on decline and turnaround.

The population studied. The initial sample is identified through the use of Compustat tapes. (See Appendix I) These computer tapes contain the record of the performance ratios of 136 banks over many years. A twenty year period (1959-1978) is covered to identify the banks to be studied. The initial sample of subject banks includes all banks which have three consecutive years of performance declines. This three year period is called "phase one" throughout the study. The three years following the

decline (called "phase 2" throughout the study) determine whether the bank meets the requirements of the study of being a turnaround bank. The final sample includes banks which exhibit three consecutive years of growth in phase 2, or three consecutive years of decline in phase 2. These are called pure turnaround banks, or pure decline banks, respectively. The final sample also includes those banks which exhibit at least two consecutive years of growth in phase 2, or two consecutive years of decline in phase 2 These are called turnaround banks, or decline banks, respectively. This design creates a sample of banks which have declined which can then be subdivided into groups which reversed the decline, and groups which did not. The calendar period is not the same for each bank. For example, one bank may be analyzed for its turnaround during the years 1972 through 1978, while another bank may be analyzed during the period 1969 to 1975. The comparison is made for the decline and turnaround period, rather than actual calendar periods.

The problem to be solved. The research problem is directed at analyzing the differences between the turnaround and decline groups. The study is designed to answer several fundamental and important questions, such as:

- are there specific strategies which banks use to turnaround performance?
- are there specific conditions within an individual bank which promote turnarounds in performance?
- are there specific significant differences between banks which turnaround and those which don't?
- can the differences which exist between turnaround banks and nonturnaround banks be controlled by the management of those banks?
- are the conditions of turnaround determined outside the control of management; that is, in the environment?

The answers to these questions should refute or support the hypothesis proposed by Glueck that "the major cause of growth, decline and other large scale changes in firms are exogenous factors in their environment, rather than any purely internal developments" (1972, p. 108).

Relation to Broader Management Theory

This study will add to the growing body of knowledge in the field of strategic planning. Strategy is a match between the organization's capabilities and its environment (Ansoff, 1965; Drucker, 1954; Hofer and Schendel, 1979). An effective strategy is one which leads to the outcomes intended by the strategy designers. This study will identify the content of strategies which lead a declining bank from the condition of decline to the condition of growth. Thus, the study will answer the call for more studies which analyze strategy within specific industries (Hatten, 1979). The study should also add to our understanding of the contingent nature of strategy (Hofer, 1975; Luthans and Stewart, 1977; Weir, 1979).

The field of business policy has recently developed as a distinct discipline within business schools (Hofer and Schendel, 1979). The research for this field has focused on the concept of strategic planning. The research methodology ranges from single case studies to complex multi-organizational studies (e.g., Rumelt, 1974; Hatten, 1974). While significant progress has been made in the attempt to understand the complex process of strategic planning, much work remains to be done.

There are two main reasons for the need to increase the research efforts in the field of strategic planning. First, much of the research has

been exploratory-normative. That is, policy experts have analyzed single organizations and prescribed what the best strategy would be for that organization. If the strategy works, the analyst generalizes that strategy to any and all organizations. This method has generated many interesting hypotheses, but the hypotheses await further testing to assure their validity. Second, the strategic planning process is an extremely complex one. One theorist identifies 55 variables which impact the effectiveness of a strategic plan. Many of these variables change quickly over time. No single study can hope to control or analyze all the appropriate variables. The discipline probably will be built through careful research, with each researcher working on separate parts of the problem. In time, theories will develop which reflect the process more powerfully and accurately than current theories do.

Generally, however, it seems there is some agreement that the strategic planning process involves several steps. These include a strategic profile, an analysis of the environment, strategic forecasting, a resource audit, the generation of strategic alternatives, a test of consistency, and a strategic choice (Uyterhoeven, Ackerman and Rosenblum, 1973).

The strategic profile is an explicit definition of the firm's business or businesses, its competition, and its self concept. This profile is used to identify how the firm competes, and how well it competes.

The analysis of the environment is a definition of the factors outside of the direct control of the business which impact the firm's performance. These factors include but are not limited to competing firms, economic conditions, local and federal government regulations, interest groups, customers, and suppliers. The strategic forecast is a natural

extension of the analysis of the environment. In this setup, the firm's management attempts to identify the future patterns of activity in the relevant environmental dimensions, and how these future patterns will impact the firm.

The resource audit is an analysis of the firm's internal dimensions. In this audit, the management analyzes the firm's operational, financial, and managerial strengths and/or weaknesses.

The generation of strategic alternatives is an attempt to identify the full set of possible actions which the firm might undertake to improve its performance. The methods for generating these alternatives include brainstorming and research. As the alternatives are generated, they are tested for consistency; that is, do these alternatives match the firm's abilities and goals? The distinction must be made between what the firm might do, and what the firm should do. This process leads to the final step of strategic choice, which is a decision which identifies the firm's future course.

Each of these steps requires different skills and information. The successful completion of each step will lead to an effective strategy; that is, one which meets the goals of the strategy designer. Different goals require different strategies. Similarly, different economic conditions require different strategies, etc.

This study assumes that a strategy designer has specific goals, such as the goal to reverse decline, under specific conditions, i.e., a three year decline. The study analyzes what the content of successful strategy would be given that the strategic agent chooses the goal of turnaround.

The Outline of This Report

Following this introductory chapter, Chapter 2 will report the literature review. The literature reviewed includes previous research in the area of strategic planning, the area of bank management, and the area of business success and failure. The literature review will also include a review of studies which have used methodologies similar to those employed in this study.

Chapter 3 will introduce the research design and methodology. The methodology includes quantitative and qualitative components. In the quantitative analysis, multivariate discriminant analysis will be used to analyze the dimensions of difference between the groups of interest. This analysis will supplement univariate analysis (t-tests), and regression analysis which will be used to assess the explanatory power of the financial and operating variables used. The qualitative analysis includes a review of primary and secondary sources to assess the expressed intentions of management during the period of study. Several authors suggest that observed strategic patterns can be different than intended strategic patterns (Mintzberg, 1972). This qualitative analysis will serve to test whether intended patterns were different than observed patterns. Where appropriate, exogenous factors will be tested through blocking.

Chapter 4 will present the results of the analysis. First, the sample will be identified. Then, the results of the regression and t-tests will be reported. This will be followed by a report of the results of the discriminant analysis.

Chapter 5 will present a thorough analysis of the results. The purpose of Chapter 5 will be to synthesize the information developed through hypothesis testing, in order to present a clear picture of the differences

between banks which turnaround and banks which continue to decline.

Chapter 6 will present the results of the qualitative research. This chapter will present the strategies that are enacted by banks after a period of decline. While the hypothesis testing in Chapter 4 will identify what actually happened in the turnaround and decline banks, the analysis in Chapter 6 will discuss the antecedent actions which contributed to the decline or failure.

Chapter 7 will close the study with a summary, and with suggestions for future research.

The strengths and limitations of the research. This study has several strengths and weaknesses, which shall be presented in order.

The strengths of the study include its classification of conditions and its control of extraneous variables. The study is designed to identify those strategies which are successful after a firm has undergone a period of decline in a specific industry. While this strength limits the results of the study to the banking industry, its successful completion will add general validity to the normative literature which suggests that strategic planning is possible and necessary (Steiner, 1979; Holmberg, 1978). As such, it should add to our growing knowledge of the tools available to management to improve performance. The control of extraneous variables will be provided through the consideration of alternative explanations for the turnaround process. These controls will add validity to the findings about variables which management can control in the turnaround process.

The combination of quantitative and qualitative techniques adds further strength to the study. Any variation found in the statistical

analysis can be due to chance; the review of other sources will help reduce the doubt about chance variations. Where a strategy has been initiated, the secondary sources will confirm its use. Additionally, the secondary sources will provide further confirmatory information about the differences or lack thereof between the groups.

The limitations of the study also are important. Due to its application to the banking industry alone, the results will not be amenable to generalization beyond the banking industry. Since the banking industry is almost unique in terms of its regulatory environment, this weakness cannot be avoided. As mentioned above, the confirmation of management discretion to improve performance in a highly regulated industry will lend strength to the model of strategy for all industries.

A major weakness of the study is its ex post facto nature. This weakness is unavoidable because the process of decline and turnaround cannot be manipulated directly by the researcher. The major weakness of such studies is the risk of improper interpretation (Kerlinger, 1973). This weakness can be overcome by the use of hypothesis generation, and the use of control hypotheses. This study has attempts to use both methods to reduce the risk of improper interpretation. Of course, little can be said about causality because of the infinite domain of alternative possible explanations. In general, experimental control might provide more strength for causal arguments. Rather than debate the importance of the relationships uncovered in this study, I will list the thoughts of Kerlinger: "... the study of cause and causation is an endless maze. One of the difficulties is that the word 'cause' has surplus meaning and metaphysical undertones. Perhaps more important, it is not really needed. Scientific

research can be done without evoking cause and causal explanations" (Kerlinger, p. 393).

CHAPTER II

LITERATURE REVIEW

Introduction and Purpose

Per Hofer and Schendel (1978), "the basic characteristics of the match an organization achieves with its environment is called its strategy". This match can occur by accident, or by planning. As organizations and their environments become more complex, a successful match requires careful planning.

Strategic planning has been defined in different ways by different authors. Drucker (1954) calls strategy the answer to two questions: "what is our business" and "what should it be?". Andrews (1971) calls strategy "the pattern of objectives, purposes, or goals and major policies and plans for achieving these goals, stated in such a way as to define what business the company is in or is to be in and the kind of company it is or is to be". Ansoff (1965) calls strategy a "common thread" that matches an organization's activities and the products and markets that the organization competes in..

The following chart compares the concept of strategy according to the leading text authors in the field. The major difference between these authorities lies in their definition of the field. I list the arguments of Hofer and Schendel here. Some authorities hold a broad view of the subject; they define strategy as the process of setting goals and objectives, choosing strategies, implementing strategies, and controlling or

Table 1

A Comparison of Various Authors' Concepts of Strategy and the Strategy Formulation Process

	Chandler	Andrews	Ansoff	Cannon	Katz	Ackoff
Breadth of Strategy Definition/Concept	broad	broad	narrow	narrow	broad	does not recognize concept
Name for Broad Concept of Strategy	strategy	strategy	X	X	corporate strategy	X
Components of Broad Concept of Strategy	goals objectives action plans resource allocations	goals policies plans	X	X	scope deployments specifications	X
Name for Goals & Objectives	goals & objectives	goals & objectives	objectives & constraints	result strategy	specifications & strategic criteria	objectives & goals
Characteristics of Objectives	none specified	none specified	attributes yardsticks goals	attributes indices targets & time tied to action strategies	none specified	none specified
Name for Narrow Concept Strategy	X	X	strategy	composite or business strategy	scope	X
Components of Narrow Concept Strategy	X	X	product-market scope growth vector competitive advantage synergy	none specified	none specified	X
Names for Functional Strategies & Policies	X	policies	policies	action strategy	functionel policies	policies
Name for Implementation Plans	action plans	plans	programs	commitment strategy	deployments	programs, procedures, & courses of action
Differentiates between Goals & Objectives & Constraints	no	no	yes	no	no	yes
Differentiates between Corporate Level & Business Level Strategies	no	no	yes, implicitly	yes, implicitly	no	no
Differentiates between Goal Formulation Processes & Strategy Formulation Processes	no	no	yes	no	no	yes
Differentiates between Analytical & Organizational Aspects of the Strategy Formulation	does not discuss either	does not discuss organizational aspects	yes	yes	does not discuss organizational aspects	yes

McNichols	Newman & Logan	Uyeterhoeven *et al*	Paine & Naumes	Glueck	Steiner & Miner	Hofer & Schende
narrow	broad	both broad & narrow	narrow	narrow	broad	narrow
X	master strategy	strategy	X	X	master strategy	grand design
X	services technology synergy sequencing & timing targets	objectives strategic posture	X	X	missions purposes objectives policies	objectives strategy policies
goals & objectives	targets	goals & objectives	objectives	objectives	purposes & objectives	goals & objectives
none specified	none specified	none specified	none specified	differentiates between official & operative	none specified	attributes indices targets time
root strategy	X	strategic posture	overall strategy	strategy	program strategy	corporate or business strategy
none specified	services technology synergy sequencing & timing	scope competitive posture self-concept	none specified	none specified	none specified	domain or sc resource deploymen competitive advantage synergy
operating strategy & policies	functional policies	functional strategies & policies	policies	functional policies	functional strategies & policies	functional strategies & policies
master plan	programs & plans	X	programs & roles	plans & programs	programs & plans	plans of action
no	no	no	between objectives & constraints	no	no	yes
no	no	no, but does recognize different organizational levels	no	no	yes, in places	yes
no	yes	no	not explicitly	yes	yes, in places	yes
does not discuss organizational aspects	yes	does not discuss organizational aspects	no	no	yes	yes

Reprinted from Strategy Formulation: Analytical Concepts by Charles W. Hofer and Don Schendel, West Publishing Co., St. Paul, Minn.: 1978, pp. 18-19.

monitoring performance. Other authorities hold a narrow view of the subject. They define strategy as a choice of means to a given end. They separate the steps of formulating goals and objectives, implementing strategy, and monitoring performance from the strategic planning process. Both views are useful; the research in this study follows the narrow view, in that the problem analyzed is the choice of means to a desired end.

This literature review includes three sections: first, there is a review of the literature on strategy; second, there is a review of the literature on the problem of failure and turnaround; third, there is a review of the literature on bank management.

Strategy

The process of strategic choice. Those who hold the broad view of the field of strategy rarely separate the term "strategy" from the term "planning." Planning is a highly reflective activity, in which the planner identifies current conditions, current trends, future conditions, and future trends. The planner then matches his organization's capabilities with the requirements of future conditions, in order to maximize his goals. There is no doubt that this highly reflective process is being used. General Electric, for example, employs a staff which exists for this purpose. Popular periodicals report the efforts of consulting groups which offer their services and expertise in the area of planning. The ultimate goal of such planning efforts is a roadmap to the future. The practical result of these efforts often falls short of the goal.

Several theorists have noted that strategy can occur without the concept of planning. Mintzberg (1972) argues that strategy can be developed in three modes: adaptive, planning, and entrepreneurial.

The adaptive mode of strategy occurs when an organization reacts in a disjointed manner to external pressures. The adaptive mode of planning is similar to the process of organization described by Cyert and March (1963), wherein management is described as reacting to a range of goals in a sequential manner. The sequence of goals can be determined by factors beyond the immediate control of management.

The planning mode of strategy is the systematic, integrated process most often associated with strategy. In this process, top management designs strategy through the use of sophisticated methodologies provided either by management or staff specialists. This model of managerial behavior can be traced back to the prescriptions of early management theorists (Fayol, 1949; Gulick, 1937), who called upon management to plan, organize, coordinate, etc.

The third mode of planning is the entrepreneurial mode, in which a great leader pushes an organization forward through his inspired knowledge and skills. This model of planning grows from economic literature, which describes the influence of the owner manager in the process of business development. The entrepreneurial mode of strategy has been studied most extensively by Collins and Moore (1964).

Dunlop (1977) supports the view that strategy is adaptive. He writes: "decisions largely flow from the relatively short-term pressures of necessity and the clash of conflicting interest, not from the ideas of intellectuals, their voices in the air, or from their memoranda. And interest groups are far too pragmatic to be the puppets of intellectuals." While Dunlop's main experience in the process of policy formulation was in government. He wrote these words soon after he stepped down as Secretary

of Labor. There is little doubt that the corporate environment or the business environment is quickly becoming similar to the political environment in terms of the necessity to respond to "the clash of conflicting interests." Elkins and Callaghan (1978) review the increasing pressure on business executives that comes from the same lobbies which Dunlop refers to.

Lindblom (1959) describes the adaptive process as "muddling through." Quinn (1978) argues in a similar vein. He states that "when well-managed major organizations make significant changes in strategy, the approaches they use frequently bear little resemblance to the rational analytical system so often touted in the planning literature. The full strategy is rarely written down in any one place. The process used to arrive at total strategy are typically fragmented, evolutionary, and largely intuitive." Quinn describes the process of strategy building in 10 major companies, and concludes that the strategy is built through a system of "logical incrementalism." This is a proactive technique in which top management deals with many subsystems in the organization. Through a process of trial and error, a strategy is reached. Murray (1978) describes a similar process, and calls strategy a negotiated outcome.

The planning mode of strategy design receives extensive attention in the literature, and normative theories teach that strategists should plan. Several studies show that planners out-perform non-planners. Thune and House (1970) matched pairs of companies in several industries. They found that formal planners outperformed non-planners in the area of return on investment, return on equity, and earnings per share growth, while maintaining equal performance or better with non-planners in the area

of sales growth. Herold (1972) extended these studies for four additional years, and found that planners increased their lead in most of the performance measures. Karger and Malik (1975) did a similar study for ten years in the machinery, electronic, and chemical industries, and found the same trends: planners consistently outperformed non-planners.

The success of planning in these studies might suggest that planning is the mode necessary for effective strategy, but Quinn's study was of successful companies. They did not use systematic planning methods prescribed by the strategic planning models. Rue and Fulmer (1973) found that planning did not lead to better results in the production of non-durable goods, while it did lead to better results in the production of services and industrial goods. Sheehan (1975) found some Canadian firms which did not plan outperformed other firms which did plan.

The evidence, then, is inconsistent. Planning is clearly a necessary methodology for design in strategy in some instances. In other instances, alternate methodologies, adaptive, incrementalism, etc., may be necessary. Some theorists suggest that the bridge between the competing views of the strategic design process may lie in the nature of the environment. We use the environment to mean all those variables which impact management, but which management cannot control. Khandwalla (1976) argues that if the environment is highly dynamic, then strategy must be flexible and innovative. One might observe a strategy that is flexible and innovative, and call it adaptive or incremental. In a non-dynamic environment, strategy (per Khandwalla) can be very specific. One might call this type of specific strategy a planned strategy. In a similar vein, Paine and Anderson (1977) argue that highly uncertain environments call for an adaptive mode

of strategy: "including incremental, remedial decisions arrived at in part through bargaining among members of a power coalition". In environments of perceived certainty, Paine and Anderson suggest that the planning mode is necessary.

The banking environment during the period of this study has been perceived as an uncertain one by bankers. Baker (1973) lists the unprecedented rate of change which has taken place in the banking industry in the following areas over recent years: volatile interest rates, changed deposit mix, Regulation Q, growth of non-interest expense relative to non-interest income, asset composition, capital considerations, performance measurement, improved management information systems, and theoretical developments. This uncertain environment suggests that the strategies observed in this study may not be formally planned by the managers enacting them. How, then, do we define the strategies of interest?

Mintzberg (1972) defines strategy "as a pattern in a stream of significant decisions." Khandwalla (1977) defines strategy as a "coupling together of decisions, guidelines, and hueristics." This study adopts the ideas of these authorities. Strategy is defined as a pattern in a stream of decisions. This pattern can be observed through an analysis of the decision outcomes. By observing the results of performance, that is, by measuring performance on operational and financial variables, the study will deduce the contents of strategy.

Strategic choices and the contingencies which affect them. Regardless of the process used to arrive at a strategic choice, the actual choice is the critical variable of interest for the strategy designer. The

choice must be one which can lead to desired outcomes. A strategic choice is the selection of a set of actions from an infinite range of possible actions. The chosen set of action is called the "content" of the strategy (Hofer, 1973, 1975; Bourgeois, 1980). Research on strategy content attempts to discover successful and unsuccessful strategies. This section will briefly review a portion of this literature.

The primary decision in strategy is the decision of which businesses the firm will compete in. This primary decision rarely occurs for the small business, and occurs more often for the large business. Bourgeois suggests that strategy is best studied by separating primary decisions from secondary decisions. Secondary decisions are decisions about how to compete in a given business arena. For corporations which compete in major businesses, portfolio management is one tool which has been developed to aid in the process of primary decision making (Boston Consulting Group, (1968)). Portfolio theory guides the decision maker to a choice of strategy which will maximize returns while minimizing risk for the corporation. Each business in the corporation must then make the secondary choice of how to compete in its industry within the constraints of corporate strategy. For this study, the primary decision is a constraint: the firms analyzed have chosen to compete in the commercial banking industry. The task of this study is to determine effective strategy choices after a bank's performance has declined for three years.

Similar studies, that is, studies of secondary strategy, have been done by several researchers. Schoeffler, Buzzell, and Heany (1974) find that 37 factors explain 80% of the variance in profit of a wide range of companies in several industries. Homermesh, Anderson and Harris (1978)

find that successful low market share companies follow specific strategies such as competing in carefully segmented markets, making efficient use of research and development budgets, limiting growth and diversification, and employing a strong executive officer. Gutmann (1964) finds that growth strategies include:

1) choice of a general industrial field growing quicker than the economy

2) or choice of specific fast growing sub-sectors

3) or choice of fast expanding market segments

4) or choice of subsectors before everybody else

The Homermesh, Anderson and Harris study, and the Gutmann study, are illustrative of a wide range of studies which are situational in nature. They assume a goal, that is, to be a successful low market share company, or a successful growth company, and then analyze the content of strategies which have been used by companies to attain these goals. Such situational studies may be the first step in the development of a contingency theory of strategic management.

Per Hofer and Schendel, "the contingency theory approach is concerned with the mid range body of theory which stands between 'universal truths' and 'each situation is unique.' The contingency approach seeks to determine a relationship in which observable response in and to organizations is dependent upon specific environmental conditions" (1979, p. 105). They identify four types of strategy: environment, corporate, business, and functional strategy. Corporate strategy is similar to Bourgeois' primary decision, while business strategy is similar to Bourgeois' secondary strategy. Hofer (1975) reviewed the field of business strategy

in an attempt to build a contingency theory of business strategy. He reviewed studies by Chevelier (1972), Fruhan (1972), the Boston Consulting Group (1970), Udell (1972), Khandwalla (1974) and Schoeffler et al. (1974) (see Table #2). Hofer lists three difficulties in the attempt to build this theory: 1) the situational nature of the field; 2) the lack of data bases; and 3) the difficulty of designing the data bases. The empirical work to date offers a rich base of knowledge, but they "lack precision with regard to the circumstances in which they apply" (Hofer, 1975). The circumstances in which these findings would apply are contingent upon significant environmental and organizational variables (Table #3 lists some of the significant variables). The variables include economic conditions, demographic conditions, sociocultural trends, political and legal factors, supplier variables, industry structure variables, market and consumer variables, and organizational characteristics and resources. A contingent theory would relate certain strategic variables with certain strategic choices. For example, given a particular industry structure, with economic growth, and high market share, the firm should choose a particular option for competition in the marketplace. To date, the number of clearly defined contingencies is small, because of the large number of contingent variables. This problem might be solved through a careful classification system. Such a system would group key variables together; in effect, the data reduction would achieve parsimony; this parsimony would lead to theory which has greater general applicability. A technique which Hofer uses to achieve such parsimony is to identify life cycle stages of products as a key variable. At each stage of the life cycle, only a few of the variables in each class of variables are

Table 2

Past Research on the Content of Business and Corporate Strategies

Characteristics of Research								
Types of Research	Studies Done by	Types of Organizations Studied	Nature of Study		Sample Size	Time Span of Study	Types of Data Analysis	Focus of Research
1. Business strategy studies	Chevalier	large U.S. manufacturing firms	D and N[a]	CS[b] CS CS and L	4 6 4	1 yr. 1 yr. 6 yrs.	Graphs	Effect of market share on profitability
	Fruhan	large U.S. manufacturing firms	D and N	L and CS CS CS and L	9 3 11	6 yrs. 4 yrs. 5 yrs.	Graphs	Effect of market share on profitability
	Boston Consulting Group	medium to high technology industries	D and N	L	24	2 yrs. to 37 yrs.	Graphs	Effect of experience on cost levels
	Udell	medium to large U.S. businesses	D and N	CS	485 products	1 yr.	Graphs	Nonprice aspects of marketing strategy
	Khandwalla	medium sized non-diversified U.S. manufacturing firms	D and N	CS	79 firms	1 yr.	Product moment and interaction correlations	Importance of different functional tasks to profitability under different environmental conditions
	Schoeffler	large U.S. businesses	D and N	CS	57 firms 620 businesses	3 yrs.	Multiple regression	Identify major strategic factors which influence profitability

[a] D = Descriptive, N = Normative, H = Hypothesis Testing.
[b] CS = Cross-Sectional, L = Longitudinal.

Reprinted from: "Toward a Contingency Theory of Business Strategy," Hofer, Charles, Academy of Management Journal, Vol. 18, No. 4, December 1975, pp. 794-795.

Table 3

Some Strategically Significant Environmental and Organizational Variables

- Broader Environmental Variables

  Economic Conditions
  GNP trend
  interest rates
  money supply
  energy availability

- Demographic Trends
  growth rate of population
  age distribution of population
  regional shifts in population

- Sociocultural Trends
  life style changes
  consumer activism
  career expectations

- Political/Legal Factors
  antitrust regulations
  environmental protection laws

- Supplier Variables

  degree of supplier concentration
  major changes in availability of raw materials
  major changes in conditions of trade

- Industry Structure Variables

  type of product
  degree of product differentiation
  # equal products
  price/cost structure
  economies of scale
  degree of automation
  degree of integration
  experience curves
  marginal plant size
  optimal plant size
  rate of product technological change
  rate process technological change
  transportation and distribution costs
  barriers to entry
  critical mass for entry

- Competitor Variables

  degree of seller concentration
  aggressiveness of competition
  degree of specialization in industry
  degree of capacity utilization

- Market and Consumer Behavior Variables

  stage of the life cycle
  market size
  seasonality
  cyclicality
  market segmentation
  buyer concentration
  buyer needs
  buyer loyalty
  elasticity of demand
  purchase frequency

- Organizational Characteristics and Resources

  market share
  degree of customer concentration
  quality of products
  value added
  length of production cycle
  newness of plant and equipment
  labor intensity
  relative wage rate
  marketing intensity
  discretionary cash flow/gross capital investment

Reprinted from: "Toward a Contingency Theory of Business Strategy," Hofer, Charles, Academy of Management Journal, Vol. 18, No. 4, December 1975, p. 798.

strategically important. For example, in the maturity stage, the relevant competitor variables are the degree of specialization within the industry and the degree of capacity utilization. (For a similar classification technique, see Tuason (1973)).

Another approach to building contingency theories is the approach which controls certain environmental or organizational variables. Rumelt (1974) controlled organizational variables through a product mix classification scheme. He classified firms as single product, dominant product, and related and unrelated product businesses. He tested the proposition that each type of firm required different strategies and different organizational structures. Schendel and Patton (1976) controlled environmental variables through the use of SIC codes. Ward (1976) developed a measure of product-market diversity. He used a Delphi method to classify firms according to degree of product market diversity. Theoretically, firms in different classifications would require different strategies. Ford (1978) classified economic conditions and competitive conditions in the banking industry through the use of dummy variables in a regression model. Mayne (1976) used a similar system to classify bank management policies for particular types of bank organization structures. In these different approaches, the relevant strategy choice depends upon the business' classification in a particular product classification, or product-market diversity classification, or SIC code, etc.

The crucial choice for the contingency theory researcher is the choice of variables which will be identified as the key variables. To date, there is no consensus as to what those variables should be. Any set of variables chosen leaves a wider set unchosen. That wider set may explain

more than the chosen set. There have been suggestions that the key variables are the environment and the organization. Paine and Anderson (1977) argue the important effect of the environment on the process of planning. Luthans and Stewart (1977) suggest that the key variables are the environment, the management, and the set of resources available. But these classifications are arbitrary, to the extent that there is no agreement on the methods necessary to measure these key variables. In the case of classifying organizations, for example, both deductive and inductive methods have been used. However, a general contingency theory cannot be built until some agreement has been reached about the definition and measurement of key variables.

Industry as a key contingent variable. One of the possible key variables in the design of strategy may be the industry variable. Industrial differences affect the success of strategic choice. For example, in the brewing industry, there is a relationship between market share and return on equity (Hatten, 1974; Patton, 1976). In pooled industry studies, there is a positive relationship between market share and return on equity; that is, as market share increases, returns on equity increase. When homogeneous brewer groups are studied, however, the relationship changes. By defining three groups of brewers (national, regional, and local), the researchers found that there is a negative relationship between return on equity and market share within each group. This research offers support for the idea that there are different successful strategies within an industry. One might easily reason as Hatten does (1979) that these relationships change from industry to industry. A good strategy in one industry is not necessarily valid in another industry.

Other researchers have chosen industry as the key variable for analysis. Graham and Richards (1979) studied deteriorating firms in the railroad industry. Datta (1979) studied firms in the television industry for the period 1950-1960. Datta writes: "this research is based on the premise that because of its inherently complex nature and vast differences not only between but within markets, a generally applicable theory of strategy at the business level is unlikely to be very meaningful; such a theory can be better developed through studies of individual industries as opposed to a more global approach."

This research study follows the logic of Datta. It is a study in a single industry, commercial banking. This choice of a single industry sacrifices our ability to generalize any results to other industries. This sacrifice is necessary because the commercial banking industry is unique in many ways. It is highly regulated compared to most private industries, and its product is unique. The industry requires study which focus specifically on this one industry if only because contingency theories of a more general nature may not apply to the banking industry because of its particularly peculiar environment. Furthermore, this study analyzes specific conditions in the banking industry. The study attempts to identify those strategies which will be successful in turning around a declining bank's performance. The next two sections will review the literature on failure and decline, and the literature on banking.

Failure and Turnaround

Studies of failure. A hard fact of business life is that failure is more common than success. About 90% of new businesses formed in a given year

will fail within five years. Many of these businesses fail due to inadequate management. The businesses which remain in existence after five years are not immune to failure, however. W. T. Grants, once a household name, is only one of the many examples of good firms that have gone bad. The Grant's example, failure, is an important area of concern for the policy analyst. The Grant's example might have been even more important if management could have saved this giant retail firm from failure. Only a few studies have tried to analyze firms which have begun to decline, and then turned around.

Argenti (1976) writes "the study of the causes and symptoms of company failure has been a most neglected area of management. There is hardly any literature at all and there is certainly nothing approaching a body of knowledge such as one can easily find on other management topics-mergers, for example, or incentive schemes."

There are several reasons for this neglect. First, the failure problem cannot be foreseen in most cases. Therefore, research in the area of failure is, by its very nature, ex post facto. Second, the reasons for failure which are frequently cited are excuses, rather than causes. Much of the information about failure is provided by the management which supervised the failure — a highly unreliable source at best. Third, failures occur randomly. They are not ammenable to the systematic methods of research.

Nevertheless, some research has taken place on the process of failure in organizations. The literature can be divided into two categories: Those studies which attempt to predict failure in organizations and those studies which attempt to describe the conditions in the firm at the time

of failure. Many of the predictive studies come from the fields of finance and accounting, while many of the descriptive studies come from the fields of policy and organizational behavior. We shall review studies from each category.

The research problem in this study is not failure, but rather turnaround. However, the turnaround process occurs after a period of decline. The literature on failure exhibits some clues about the nature of the decline process.

The accounting/finance studies. Beaver (1968) studied failing firms to test which financial ratios are the best predictors of failure. He defined failure as the "inability to pay financial obligations as they mature." He used a sample, identified through Moody's, of failed and non-failed firms during the period 1954 through 1964. Through three different methods, he tested the effectiveness of measures commonly used to analyze firm performance by investors. He found that non-liquid asset ratios were the best predictors of performance over time. He found that these predictors are useful over a five year period. In describing the behavior of the failed firm, Beaver states: "for the most part, the behavior of the failed firm is what would be expected. They generate less sales, and the growth in sales is less than that of non-failed firms. They have poorer cash flow and net income positions, and they incur more debt. This combination causes a marked deterioration in their solvency position" (p. 118). It is important to note that the successful prediction of failure fades as you get further away from the failure; it is easier to predict failure one year from the event than five years from

the event. It is also necessary to note that Beaver's sample includes only firms which finally reached insolvency; intuitively, one would suspect that some firms sense their deterioration, and act to turnaround before reaching the failure stage.

Altman (1968) used a multiple discriminant analysis technique to assess the effectiveness of financial measures to predict failures. He used data from 1946 to 1965 to identify 66 firms which had failed. He then matched these failed firms with similar firms which had not failed. Through the discriminant analysis, he identified five ratios which were the best predictors of failure over a five year period. Again, the best prediction occurred the year before the failure. As the prediction model moved away from the time of failure, its ability to predict declined. Altman tested the ability of his variables to predict through the use of the classification matrix. This is a test of how well discriminant functions, derived from observations on data, predict. The following chart lists the classification success rate by year:

One year before failure	95% correctly classified
two years before failure	72% "
three years before failure	48% "
four years before failure	29% "
five years before failure	36% "

Altman's analysis did not include firms which might have declined and then turned around; his study was of firms that were either bankrupt or non-bankrupt.

Bazley (1976) studied failed firms to test the effectiveness of different cost measures; historical, adjusted, and current, in predicting failure. He found that the best predictors of failure were cash flow/total liabilities, and net income/total assets. He cites the causes of

failure as inadequate sales, excessive costs, excessive receivables, inventory difficulties, excessive fixed assets, and availability of credit.

In studies similar to Altman's in that they use discriminant analysis, Emery, Halonen, and MacStravic (1976) and Sinkey (1975) studied failure in the hospital and banking industry, respectively. Emery et al. find that there are key financial and operational variables which predict failure for different types of hospitals. For government hospitals, the key predictors are occupancy, admissions, and personnel variables. For non-profit hospitals, the key variables are the number of services, the expenses per bed, personnel variables, and admission rates. For profit hospitals, the key variables are admissions, total expenses, and expenses per bed. Emery et al. imply that hospital management can trace these variables to detect decline in the organization, and act to deter that decline. Sinkey, in his study of banks, finds that asset composition, loan characteristics, capital adequacy, sources and uses of revenue, efficiency, and profitability are good indicators of possible problems in performance.

These studies provide some groundwork for the present study. The work of Beaver and Altman strongly suggest that failure can be detected before it occurs. Potential failure should trigger some action to prevent bankruptcy in the declining firm. These studies suggest that the period of decline can be observed more than one year before failure, but less than five years before failure. The Emery et al. study, and the Sinkey study, suggest that the declining firm in a specific industry can trace key variables. These studies, however, leave several questions unanswered. Both studies aimed to provide knowledge to industry planners.

They ingore the processes that occur within the firm while failure is imminent. This study will identify the specific strategies management has undertaken to counteract decline. The sample of interest will not necessarily be firms which failed, but rather firms which avoided failure.

Management studies. The aforementioned studies traced the results of certain management behaviors. In these cases, the results were failure. The studies hint at the actual management behaviors, but they don't identify the actions which management took or didn't take. In failure, sales and income decline while debt increases. What are the management actions which precipitate these results? Several studies of the failure process list the possible behaviors of failing management.

Argenti lists three main reasons for failure: management defects, accounting defects, and resistance to change. His research is based on discussion with the caretakers of failing organizations; accountants, receivers, bankers and analysts, and on the history of failing organizations. The management defects include the heavy reliance on one man usually an autocrat, the use of a passive board or a board which does not have a good mix of directors who have functional business skill, and an insufficient depth of top management. The accounting defects include the inability of the organization to accurately assess cost and profit performance. Failing firms make key mistakes; leveraged too highly, overtrading, and engaged in large projects, which better accounting information might have helped the firm to avoid. The resistance to change includes the unwillingness of the organization to update products, processes and equipment, and the unwillingness to engage in planning. Argenti

asserts that all firms might not have all the defects listed but they all have at least one defect in each area.

Richards (1973) studied 8 private firms and two government firms. He defines failure in more general terms than Beaver: "failure is a relative term but the firms reported upon experienced failure in the sense that a severe setback in relation to their strategic plans occurred." The types of failure observed in this study included extreme cost overruns, bail out by other institutions, bankruptcy, and forced mergers. Richards notes that failing firms made overoptimistic estimates of projects, they suppressed contrary information, and they had dogmatic leaders. These findings concur with Argenti's findings.

Miller (1977) defined failure as a protracted period of poor profits and declining market share. He ran a factor analysis to analyze the dimensions of management behavior in failing firms. He found that four patterns emerged: the impulsive firm, the stagnant bureaucracy, the headless firm, and the firm swimming upstream. Failure in these firms is the result of extremes: too much or too little product-market innovation; too many or too few controls, too powerful or too weak a chief executive. The findings of this study are similar to the findings of Argenti and Richards. Indeed, Richard states: "initial comparisons of failing to successful firms indicate that the successful enterprises are less risk prone, less optimistic, and more objective in information processing than the firms reported on in this study. This comparison alone can be extremely dangerous, however, if one attempts to extrapolate policy implications to conclude that complete information processing, no risk exposure, and executive pessimism are preferred strategic orientations.

Rather, strategic success and failure are probably curvilinearly related to these variables such that optimal strategy lies at neither extreme."

These studies suggest that there are management patterns in the failure process. They suggest that the way to avoid failure is to avoid these management patterns. Yet, the studies look at organizations which fail, rather than organizations which turnaround.

Studies of turnaround. Graham and Richards (1979) studied the patterns of strategic change in rail based holding companies after a period of deterioration in performance. Their study suggests many interesting ideas about the turnaround process.

The most important idea stressed in these studies is that strategic change requires a major deterioration in performance: "Cyert and March suggest that problem solving search does not wander very far from past and familiar solutions. Strategic change, however, constitutes a dramatic alteration of prior organizational activity. Thus, revising strategy would not be contemplated unless organizational slack had in some way been reduced to unsatisfactory levels." Their study confirms this key idea. Firms which did enact strategic changes (the strategic change in this study was diversification) had significantly lower returns than firms which did not enact these changes. The change included changes in the composition of the Boards of Directors, and changes in the experience and background of the management team.

The implication of these findings is that the management of a declining firm may not be able to diversify the firm. If these findings are accurate in all cases, they imply that turnarounds which include

diversification require substantial changes in the management team. Furthermore, this study implies that diversification strategies may be strategies of a last resort. It is possible that the management in a declining organization either accepts the decline as inevitable, or reacts to the decline in a manner which is ineffective. Unfortunately, this study only reports results for firms which did enact diversification strategies. There is a wide range of alternatives that management might choose during the condition of decline; this particular study does not identify the full range.

Schendel and Patton (1976) studied the process of corporate decline and turnaround. They studied pairs of firms in similar environments. One of the firms had declined and turned around; the other firm had continually declined. They analyzed each pair of firms in terms of financial measures, management actions, resource allocation, and strategies. They attempted to identify the key differences in financial and performance ratios between failing and non-failing companies. The results of their study suggest several interesting factors about the turnaround process:

> "The scenario that emerges from this exploratory research is that a stagnating or declining company seems to first need a deepened threat or shock to spur it into action. Steadily poor performance so long as it does not develop a crisis seems to be tolerated. Once a crisis arrives, the firm can move into action. While there are different specific strategies involved, turnaround usually requires substantial changes in the business; and often new businesses either acquired or developed internally can lead to sales growth that more than outstrips investment increments. At the same time, attendant efficiency moves in working capital, in productivity, and in other areas also are sought; or efficiency accrues to strategy changes made."

This study implies that turnaround often requires a primary strategic decision; that is, a change of business. Turnaround firms often diversify into new businesses. It is also possible to turnaround through the use of secondary decisions; that is, the decision to develop new products or services, or the decision to improve operating efficiency. Furthermore, the failure to turnaround can be traced to several sources: the strategy choice could be the wrong choice. In one set of matched pairs, growth through acquisition and merger worked while growth through internal expansion did not work. The strategy choice could be frustrated by government; in one case, a firm's attempt to expand was stopped by government action; or the strategy choice could fail to poor implementation.

Ross and Kami (1973) did an intensive study of firms which failed, and developed a set of prescriptions for management. These ten commandments are:

1. Develop and communicate a strategy
2. Use overall controls and costs controls
3. Insist on an active board of directors
4. Avoid one man rule
5. Provide management depth
6. Keep informed of, and react to, change
7. Don't overlook the power of customers
8. Use, but don't abuse, computers
9. Do not engage in accounting manipulations
10. Provide an organizational structure that meets the needs of the workforce

This study implies that there are strategies which a firm can use to avoid failure. The strategies suggested by this study are similar to the strategies suggested by the studies reviewed to this point.

This research analyzes the process of decline and turnaround in the commercial banking industry. The research is based on the premise that management can detect a decline (Beaver, Altman), and enact specific although not necessarily unique strategies to counteract that decline. The research is an attempt to refute the hypothesis, proposed by Glueck, that "the major cause of growth, decline and other large scale changes in firms are exogenous factors in their environment, rather than any purely internal developments" (1972, p. 108).

Bank Management Studies

Much of the literature on the performance of banks has focused on the comparison of holding companies with other banks, and on problem banks (Ford, 1974). Little has been written on the process of managing successful banks (although excellent texts have been written by Crosse (1962) and Corns (1968)). Perhaps the most extensive work on the management of successful banks has been done by Ford. Ford identifies "high performance banks," and then analyzes the difference between high performance banks and other banks. A bank earns the high performance classification if it has a very high average rate of return for five years, and if it ranks in the top 50% of profitability for the year previous to the year of study. His on-going project is updated annually Ford finds that there are distinct differences in the management of high performance banks. High performance banks earn higher yields on assets,

and they have much lower expenses than low performing banks. They pay their employees more, and they obtain more performance from their employees. They have better loan yields, and higher quality loans than low performance banks.

Ford traces the cause of performance in high performance banks to the skills of managers. The managers of the high performers set financial goals, develop long range strategies, establish short range profit plans, and track and reformulate plans (Ford, 1978). They succeed in recessionary times through careful management processes. Indeed, all variation in performance can be traced to the careful management of variables under the control of management:

> "Overall, our tests of non-management factors were not very conclusive. Although it appears that economic growth stimulates bank profitability and that extensive branching and strong competition from thrift institutions can depress profitability, the amount of variation explained by these factors is not very high. This, coupled with the fact that rates of return for banks within the same state (and even within more localized markets) exhibit substantial differences, suggests that non-management factors influence only modestly banks' rate of return; most of the variation in profitability seems to be caused by factors which management should be able to control." (1978)

The factors that management should be able to control fall into several classes: profitability, expense, employee utilization, asset management, revenue enhancement, credit quality control, leverage and loss coverage, and growth measures. The variables in each of these classes are listed in Table #4.

Ford's variables are similar to those used by other researchers to assess bank performance. For comparison, the variables used by Sinkey (1975) and Mayne (1976) are listed in Table #5. Sinkey found that

Table 4

Ford's Variables
of Bank Performance

Profitability Measures:

1. Net income/average equity
2. Return on earning assets
3. Net interest income/earning assets

Expensive Control Measures:

4. Operating expense/earning assets
5. Overhead/earning assets
6. Interest on deposits/all deposits
7. Interest on deposits/time and savings

Employee Utilization Measures:

8. Net income/employees
9. Payroll expense/employees
10. Assets/employees

Asset Management:

11. Gross loans/all deposits
12. Cash and treasuries/DDA

Revenue Enhancement:

13. Loan income/gross loans
14. Securities income/securities
15. Municipal income (tax ads)/municipal

Credit Quality Control Measures:

16. Loan loss provision/earnings assets
17. Gross chargeoffs/loans

Leverage and Loss Coverage:

18. Equity assets
19. Loan loss coverage ratio
20. Reserve loans

Growth Measures:

21. Annual asset growth
22. Annual deposit growth
23. Annual equity growth

Table 5

Sinkey's Variables of Bank Performance

1.	Liquidity	1a.	[Cash + U.S. Treasury Sec.]/Assets
2.	Loan volume	2a.	Loans/Assets
3.	Loan Quality	3a.	Provision for Loan Losses/Oper. Expense
4.	Capital Adequacy	4a.	Loans/[Capital + Reserves]
5.	Efficiency	5a.	Operating Expense/Operating Income
6.	Sources of Revenue (as a % of revenue)	6a.	Loan Revenue/Total Revenue
		b.	U.S. Treasury Securities' Revenue/ Total Revenue
		c.	State & Local Obligations' Revenue/ Total Revenue
7.	Uses of Revenue (as a % of revenue)	7a.	Interest Paid on Deposits/Total Revenue
		b.	Other Expenses/Total Revenue

Mayne's Variables of Bank Performance

I. Assets

Liquid Assets/Total Assets
Muncipal Securities/Total Assets
Total Loans/Total Assets
Consumer Loans/Total Loans
Residential Mortgages/Total Loans

II. Deposits

Time and Savings Deposits/Total Deposits
Interest on Time and Savings Deposits/Total Time and Savings Deposits

III. Capital

Capital/Risk Assets

IV. Revenue

Deposit Service Charges/IPC Demand Deposits
Loan Revenue/Total Loans

V. Expenses

Operating Expenses/Total Assets
"Other" Operating Expenses/Total Assets
Loan Losses/Total Loans

VI. Profitability

Operating Profit (After Tax)/Total Assets
Net Profit/Total Capital

certain factors within these performance variables can be used to discriminate between problem and non-problem banks. The factors include asset composition, loan characteristics, capital adequacy, sources and uses of revenue, efficiency, and profitability. These factors can be controlled by management.

One factor which might affect bank performance is bank structure. Some banks are holding company banks, that is, a central corporation owns several banks, while other banks are unit banks. Theoretically, the management of unit banks might be at a disadvantage; the competition offered by the bigger holding companies might be a variable that they can't control. Mayne (1976) finds that this is not true; in an analysis of the performance of banks managed under different structure, she finds: "the weight of the empirical evidence reported in this paper indicates few differences between non-affiliated banks and subsidiaries of decentralized systems, and little difference between the latter class and members of more formally cohesive groups." This finding, coupled with Ford's findings that high performance banks tend to fall in the $10 to $100 million size range, offer further evidence that management controlled factors do determine success in the bank, although Mayne's findings are not confirmed in a similar study done by Johnson and Meinster (1975).

Baker offers further support for the idea that management can affect performance in the banking industry: "high performance banks have been able to continue recording above average earnings during the deposit mix transition because they become better at pricing loans and other services, minimized their loan losses, controlled manageable costs, limited

fixed asset commitments, and maximized investment income by utilizing tax exempt securities to reduce the tax burden" (1978, p. 36).

The immediately aforementioned research suggests that there is a difference in bank performance between successful and non-successful banks that can be traced to management strategies. The literature, however, does not assess how a low performance bank becomes a high performance bank. One would guess that they initiate the strategies of high performers, and turn their performance around in time. This guess does little to suggest which of the strategies employed by the high performing banks are the most important in terms of turning performance around. This research study will attempt to identify those strategies which a declining bank can use to turn performance around. The next chapter will present the methodology for the study.

CHAPTER III

METHODOLOGY

This chapter presents the methodology of the study. The methodological section of the chapter is preceded by a discussion of the research problem, and a discussion of the pertinent hypotheses.

Problem Statement

Over time, the performance of any organization can change. Some organizations grow. Some organizations decline. Some organizations decline for a period of time, and then grow. This research project focuses on the phenomena of decline, and decline followed by growth.

There may be an infinite variety of strategies which an organization can use to turnaround performance. This variety is due to several factors. First, the cause of the decline can impact the strategy for turnaround. If the decline is due to a particular weakness, then the turnaround might be accomplished by removal of the weakness. For example, a commonly cited cause of failure is the unwillingness to plan. If decline is precipitated by this weakness, then the decline might be counteracted by the installation of a planning process. Similarly, a commonly cited cause of failure is inaccurate accounting information. Under these conditions, the failure might be turned around through the installation of a more effective reporting system.

Creativity lends complexity to the turnaround process. Creative options vary for each organization that attempts to turnaround. Turnaround

efforts are often successful because firms add new products, new markets, or new businesses. These new options are almost unlimited; few organizations are constrained in their options for new competitive vehicles.

A common turnaround strategy is the new team of managers approach. In this approach, the turnaround is accompanied by management and/or board changes. If previous research paints an accurate picture, then there is a threshold point of failure in organizations, as found by Schendel and Patton (1976) or Graham and Richards (1979), who describe how organizations only react to sharp declines which have occurred over a long period of time. Often, when the organizations reach this threshold point, there are changes in the management group. The new management group then enacts new strategies. In these situations, we do not know the causal agent of the turnaround. If the former management group had acted before the threshold point to initiate the same strategies which are initiated after the threshold point, perhaps the turnaround could have occurred earlier.

The fact that turnaround often requires multiple strategies also lends complexity to the analysis of these strategies. Decline is rarely due to one single factor (Argenti, 1976; Richards, 1973); turnaround, similarly, is rarely due to one single factor. Success requires attention on several fronts. Any turnaround strategy is really a mixture of several strategies.

A priori, we can identify turnaround strategies that might be pertinent to commercial banks. The research problem is to identify those strategies which successful turnaround banks use. Furthermore, the

research problem is to isolate other factors which might cause the turnaround. For example, changes in the environment rather than changes in strategy might cause the turnaround.

The possible turnaround strategies include:

1) the reversal of a big loss, such as cutting losing departments.
2) increasing deposits to increase investable funds.
3) merging with other banks.
4) controlling expenses.
5) reorganizing.
6) opening branches in growth areas.
7) improving marketing programs.
8) bringing in a new management team.
9) bringing in a new system of management.
10) changing the investment mix.
11) expanding markets nationally or internationally.
12) improving legal leverage.
13) investment in new technologies
14) investment in new business.

This list is not meant to be exhaustive; it has been developed through discussions with management experts and through a review of the turnaround literature. This study will identify those strategies used by turnaround banks; the study should add to this a priori listing.

Identification of Sample and Definitions

The initial sample is drawn from Bank Compustat Tapes (see Appendix for description). Bank Compustat Tapes lists financial and operational

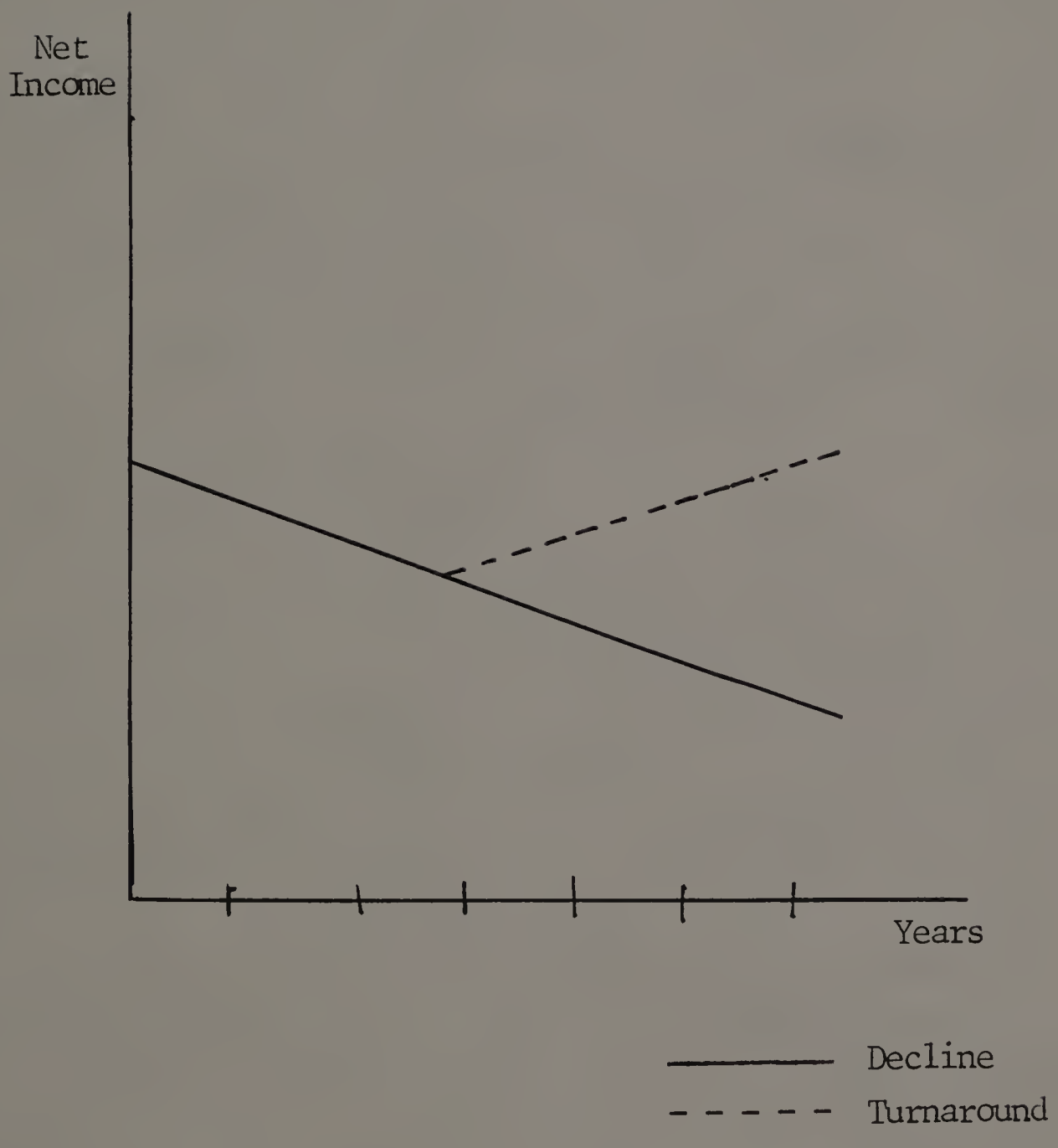
variables for 136 banks. The time period used in this study is 1959 through 1978. Two categories of banks are identified. The first category of banks are called the decline group. The second category of banks are called the turnaround group. Decline banks are banks which have continuously declined for three successive years and then at least two of the next three years. Turnaround groups are banks which have declined for three successive years, and then grown for at least two of the next three years (See Figure #1).

The first step in identifying the sample is the choice of classification variable. Following the lead of Schendel and Patton, the classification variable is net income. While Schendel and Patton compared net income to growth in GNP, this study compares growth in net income for a bank to the industry-wide growth in net income. If a bank's net income grows at a higher rate than industry-wide net income, then that year is called a growth year. If a bank's net income grows at a lesser rate than industry-wide growth in net income for a particular year, then that year is labeled a decline year. This comparison normalizes the growth/decline pattern over time. The comparison follows the logic that a bank which has increased its net income at a rate less than industry growth in net income has lost ground, while the bank that has grown faster than the industry has gained ground.

Industry growth is computed through the use of aggregate data compiled by the Federal Deposit Insurance Corporation (FDIC). For each year, the percentage increase in net income over the previous year is computed. This percentage increase is then used to categorize each year of performance for each bank as decline or growth.

Figure 1

Graphic Representation of Turnaround



The classification of each year takes place through the use of a transformed variable. For each bank in the initial sample, the first year's net income is used as the initial base period. The first year is then transformed to reflect the growth in net income for the entire industry. The second year is then compared to this transformed first year. More precisely,

XT = XY: XT = transformed net income

X = net income

Y = growth in net income for industry

In the first year, the transformed net income is the base period. For each subsequent year, the net income is divided by the transformed net income of the previous year. The natural log of this calculation is then computed. A negative natural log indicates decline, while a positive natural log indicates growth. More concisely, this calculation is as follows:

ln (X/XT-1), where X = the current year's net income, and

XT-1 = the transformed net income for the previous year.

The results are visually inspected to detect desired patterns. Banks which exhibit three consecutive negative scores are classified as declining banks. Thus, a decline is recorded where:

$X_i < X_{i-1}T$ for three years.

This first period, three years of consecutive decline, will be called "Phase 1".

All banks which exhibit the three years of decline are part of the sample. The problem focus of this study is the pattern over the next

three years. For the second three years, which shall be called "phase 2", there are eight patterns which can be observed. The eight patterns are as follows:

- - - (three years of decline, where $X_i < X_{i-1}T$ for three years)

+ + + (three years of growth, where $X_i > X_{i-1}T$ for three years)

- + +
+ - +
+ + -

(inconsistent growth, where $X_i > X_{i-1}T$ for two of three years)

+ - -
- + -
- - +

(inconsistent decline, where $X_i < X_{i-1}T$ for two of three years)

The pure decline group is defined as the group which includes those banks which have pure decline in phase 2. These banks have gone through a six year period in which their performance has declined relative to industry performance.

The pure turnaround group is defined as the group which includes banks which have pure growth in phase 2. These banks have gone through a six year period, which includes three years of decline followed by three years of growth.

A second pair of groups will be formed. Inconsistent decline banks will be added to the pure decline group, while inconsistent growth banks will be added to the pure turnaround group. The expanded decline group which is called the impure decline group, includes those banks which exhibit pure decline, and those banks which interspace their decline with one year of growth. The underlying assumption in this classification scheme is that the one year of growth is a random occurrence. Since it has occurred only in one year out of six, this seems reasonable.

Similarly, the expanded turnaround group, which is called the impure turnaround group, includes those banks which exhibit pure turnaround in phase 2, and those banks which interspace the growth with one year of decline. The underlying assumption in this classification scheme is that the turnaround strategies for the inconsistent turnaround banks have met with partial success. This classification method is similar to the classification method used by Schendel and Patton.

For each bank in the sample group, financial and operating ratios identified by Ford (1978) will be calculated for the six year period. These variables have been chosen because they are representative of the variables of interest to theorists of bank management. The variables are:

v1: net income/average equity
v2: return on earning assets
v3: net interest income/earning assets

v4: operating expense/earning assets
v5: overhead/earning assets
v6: interest on deposits/all deposits
v7: interest on deposits/time and savings

v8: net income/employees
v9: payroll expense/employees
v10: assets/employees

v11: gross loans/all deposits
v12: cash and treasuries/dda (demand deposit accounts)

v13: loan income/gross loans
v14: securities income/securities
v15: municipal income/municipals

v16: loan loss provision/earning assets
v17: gross chargeoffs/loans

v18: equity/assets
v19: loan loss coverage ratio
v20: reserve loans

v21: asset growth
v22: deposit growth
v23: equity growth

The calculation of each variable is presented in the appendix.

Hypotheses and Methodology

The analysis is performed in four separate stages. The first stage of the analysis is an attempt to estimate the explanatory power of the variables chosen for analysis. The second step of the analysis is the test of hypotheses generated about turnaround strategies. The third step of the analysis is the test of alternative hypotheses. The fourth step of the analysis is qualitative confirmation of the process. We shall consider each step in order.

Testing the model. The first step in the study involves a test of the model. The study assumes that variation in performance can be explained by the variables chosen for analysis. These variables have been tested in other studies; they have been chosen only after a careful review of the appropriate literature. However, most studies that have used this set of variables have had a different purpose than this study. Ford (1978) studied the differences between high performing and low performing banks. These banks may be different than non-turnaround and turnaround banks. The device which will be used to test the power of these variables is the regression model.

In the regression model, $Y = BX + e$, where Y is the dependent variable, B is beta, X is a T x (K+1) matrix, and e is an error term. In this particular model, Y is net income; X is a matrix of 23 independent

variables. B is estimated by the least squares method (through the normal equations) by the formula $(X'X)^{-1} X'Y$. (Goldberger, 1964).

Given the estimate of b, we can then compute the vector of calculated values of y, $\hat{y}$, where $\hat{y} = Xb$. We can then calculate the vector of residuals, $\hat{e}$, where $\hat{e} = y-Xb = y-\hat{y}$. This calculation allows us to decompose the total variance into two components: the variance due to regression, and the variance due to error. Thus,

$$SST = SSR + SSE$$

$$SST = y'y - (i'y)^2/T$$

$$SSR = b'X'y - (i'y)^2/T$$

This gives us a "natural measure of goodness of fit," (Goldberger, 1964), which is the coefficient of determination (commonly called R^2).

$$R^2 = SSR/SST$$

An R^2 of 1 is a perfect fit, while an R^2 of 0 is indicative of zero explanatory power. The higher the R^2 value, the higher the explanatory power of the model.

A regression is run for each year of phase 1 and phase 2 for the turnaround and non-turnaround groups. The R^2 is then computed for each regression. A consistently high R^2 offers confirmation for the power of the model; the high R^2 confirms that these variables do explain the turnaround process. The relative contribution of each variable cannot be determined through the regression analysis because there is a high degree of multicollinearity between the independent variables (for a discussion of the effects of multicollinearity, see Kerlinger (1973)).

Hypotheses testing and methodology. These hypotheses are tested on the decline and turnaround groups which are pure cases, and on the expanded

impure decline and impure turnaround groups.

Each hypothesis is presented with a brief discussion of the theory which suggests the hypothesis, and the operational method for testing the hypothesis.

Hypothesis #1: The rate of decline of net income in turnaround firms will be greater than the rate of decline of net income in non-turnaround firms during phase 1.

This hypothesis is based on the theory of Cyert and March (1963), and the findings of Schendel and Patton (1976).

The hypothesis is tested through the use of t-tests. The rate of decline is defined as the average percentage decline from the first to the third year of phase one. The computation of average rate of decline is computed for each group. The rate of decline is:

$$\frac{\left[\frac{X_1 - X_0}{X_0}\right] + \left[\frac{X_2 - X_1}{X_1}\right] + \left[\frac{X_3 - X_2}{X_2}\right]}{3}$$

X_n = net income for year n

If we call the rate of decline for company i D_i, then the average rate of decline for a group is:

$$RD = \sum_{i=1}^{n} \frac{D_i}{n}$$

The null hypothesis, H_0, is as follows:

H_0: $RD_t = RD_n$, where RD_t = rate of decline for turnaround group

RD_n = rate of decline for non-turnaround group

H_i: $RD_t > RD_n$

The null should be rejected at a .05 level of significance. This is a one-sided t-test, where the test statistic is:

$$Z = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}}$$

Hypothesis #2: The performance of the groups will be the same on the financial and operating ratios for the decline phase (phase 1)

This hypothesis is based on the assumption that the turnaround banks and the non-turnaround banks are equal performers during the decline phase.

Performance is defined as a change overtime. The average percentage change for each of the 23 performance variables over the three period of decline will be computed:

Change in performance for V =

$$\frac{\left[\frac{V_1 - V_0}{V_0}\right] + \left[\frac{V_2 - V_1}{V_1}\right] + \left[\frac{V_3 - V_2}{V_2}\right]}{3}$$

If we call performance on variable i P_i, then the rate of change for each group is

$$P_i = \sum_{j=1}^{n} \frac{P_{ij}}{j}$$

i = variable

j = company

The null hypothesis is as follows:

H_0: $P_{it} = P_{in}$, where P_{it} = rate of change on performance variable i for turnaround group

P_{in} = rate of change on performance variable for non-turnaround group

The null should be accepted at .05 level of significance. The test is a two-sided t-test. The test statistic is as before.

Hypothesis #3: The performance of the groups (turnaround and non-turnaround) is different on the financial and operating ratios for phase 2.

This hypothesis is based on the assumption that the turnaround group is different than the decline group in phase 2. The turnaround group has initiated strategies which are different than those followed by the non-turnaround group; the effect of these strategies should be observed in the financial and operating ratios.

Performance is again defined as change over time. The average percentage change for each of the 23 performance variables over the three-year period of phase 2 will be computed:

Change in performance for V =

$$\frac{\left[\frac{V_4 - V_3}{V_3}\right] + \left[\frac{V_5 - V_4}{V_4}\right] + \left[\frac{V_6 - V_5}{V_5}\right]}{3}$$

Again, we call performance on variable i P_i, the rate of change for each group is:

$$P_i = \sum_{j=1}^{n} \frac{P_{ij}}{j}$$

i = variable

j = company

The null hypothesis is as follows:

H_0: $P_{it} = P_{in}$, where P_{it} = rate of change on performance variable i for turnaround group

P_{in} = rate of change on performance variable i for non-turnaround group

The null should be rejected at the .05 level of significance. The test is a two-sided t-test; the test statistic is as before.

Hypothesis #4: The two groups will not be discriminated successfully when phase 1 of the turnaround group is compared to phase 1 of the decline group.

The method of analysis to test this hypothesis is multiple discriminant analysis. Discriminant analysis "finds a linear combination of the p variables that gives maximum separation between the groups" (Frederick, 1975). The assumption behind this hypothesis is that there is no difference between the groups of banks during the decline phase. The hypothesis is partially based on the work of Schendel and Patton, who used separate multiple regressions to analyze differences between stagnation and turnaround.

Multiple discriminant analysis: "is a statistical technique used to classify an observation into one of several a priori groupings dependent upon the observation's individual characteristics. It is used primarily to classify and/or make predictions in problems where the dependent variable appears in qualitative form; e.g., male or female, bankrupt or non-bankrupt. Therefore, the first step is to establish explicit group classifications. The number of original groups can be two or more." (Altman, 1968). In our case, the explicit group classification is turnaround or non-turnaround. In phase 1, the both groups are in

decline. Therefore, there should not be a successful discrimination at this point.

The test of discrimination between the groups is Bartlett's chi-square approximation:

$$X^2 = -(n-1-(p+g)/2)\ \ln \Lambda$$

where $\Lambda = (1/1+\lambda_j)$

This methodology follows two assumptions: one, that the dispersion matrix of each group is equal; two, that the distribution of the underlying population is multivariate normal.

The discriminant analysis will be run at year 1 of phase 1, and year 3 of phase 1.

Hypothesis #5: The two groups will be discriminated successfully when phase 2 of the turnaround group is compared to phase 2 of the decline group.

This hypothesis flows from the previous hypothesis. While the groups were similar during phase 1, during phase 2 a change occurred; that is, the turnaround group has now entered a new trend, while the non-turnaround group continues to decline. The characteristics of this change should be detected by the discriminant analysis.

The statistical methodology is the same as the methodology for the previous hypothesis. However, the discrimination should be successful; Bartlett's chi-square should be significant.

This test will be conducted for year 1 of phase 2, and year 3 of phase 2.

Hypothesis #6: Several variables will be more important than the other variables in the discriminant function. Specifically, variables operating expense/earning assets, overhead/ earning assets, interest on deposits/all deposits, net income/employees, payroll expense/employees, assets/ employees, cash and treasuries/DDA, municipal income/ municipals will be among the variables that contribute the most to the discriminating function.

This hypothesis is suggested by Ford's (1978) analysis of high performing banks.

This hypothesis will be tested through the use of discriminant weights and discriminant loadings. The discriminant analysis is run on standardized data; the discriminant function is produced; then, discriminant scores are calculated. These scores provide a relative measure of the contribution of each variable in the discriminating process. The higher the score, the higher the contribution. When the scores are listed in rank order, the variables predicted to contribute the most will fall within the top half of the list. Discriminant loadings which show correlation between variables and the discriminant score will be computed and inspected.

After the initial discriminant analysis, a reduced set of variables is identified and used for further analysis. The task of identifying the most important discriminators within a set of collinear predictor variables is a complex one, because there is no unambiguous answer to the problem of collinearity (Green, 1978). The options available include dropping variables after inspection of the correlation matrix (Green, 1978), the use of significance tests on the difference in Mahalanobis distances between full sets and reduced sets of variables (Rao, 1952), the use of partial F-tests (Klecka, 1975), the use of the

structure matrix (Cooley and Lohnes, 1971), or the use of standardized discriminant weights (Green, 1978). The structure matrix is inspected to assess discriminatory power of variables. A reduced set of variables is then chosen, and the discriminating effects of these variables are tested on phase 2.

At this point, an attempt is made to assess the discriminatory contribution of each class of variables; profitability measures, expense control measures, employee utilization measures, asset management measures, etc. An index is built for each class of variables through the use of factor scores. The factor scores are then used in a discriminant analysis model, to assess the discriminatory power of each class of variables.

Alternate hypotheses. The assumption of this study is that the decline and turnaround process is not independent of management action. The decline occurs because management has made some strategic errors, and the turnaround occurs because management has made successful strategic adjustments. This assumption may be in error. It is possible that alternative explanations for the turnaround process exist.

The extraneous factors which have been proposed to explain declines in performance include size, organizational structure, and local economic conditions.

Large size may be an advantage, while small size may be a disadvantage. The logic of this argument rests on the empirical phenomena known as the experience curve (Boston Consulting Group, 1968). In general, as size increases, production experience increases. This increase in

experience leads to a decline in cost. Due to cost advantages, the large organization is more successful than the small organization. In competition, then, the small organization will decline regardless of the action of management.

Organizational structure may impact bank performance. The key differences in organizational structure in the banking industry lie in the difference between holding companies and unit banks. Holding companies are corporate organizations which own several banks, while unit banks are independent of affiliation with any other banking units. Several theorists have addressed the issues of the impact of holding companies on bank competition (Mayne, 1976); (Johnson and Meinster, 1975). It is possible that the unit bank is at a competitive disadvantage when competing with the holding company. The competitive advantage accrues to the holding company because of its ability to spread staff costs over several banks. Theoretically, the holding company will have better staff productivity per bank.

Local economic conditions can impact bank performance through two channels. First, local economic conditions affect the portfolio of the bank. Its level can be decreased due to decreased business growth in a particular region, and its risk can be increased due to a decline in business activity unique to a region. Second, a particular region may have more competition than another region. There might be more commercial banks in a particular region, and there may be more alternate sources of funds for business such as savings and loans or insurance companies. High levels of competition can force management into expensive programs which don't contribute significantly to an increase in revenue. Such

competition would reduce a bank's performance relative to the industry, if the whole industry is not subject to the same conditions.

These alternative hypotheses are not exhaustive; there probably are others. However, these are the alternative hypotheses most often debated in the literature. It would be impossible to exhaust the full range of hypotheses within the parameters of this study.

The alternative hypotheses will be tested through the use of a regression model.

Hypothesis #7: Extraneous variables (other than the 23 analyzed) will have insignificant effects. The major extraneous variables will be size, organizational structure, and regional economic differences. The effects of these variables will be tested in a regression model, where the extraneous factor is used as a blocking variable. These tests will be run only if the extraneous factor appears in the sample. The independent variances will be net income and profitability measures.

Operationally, the test of significance is as follows:

$Y = a + b_1X_1 + B_nX_n$, where Y = income (net)

b_1 = beta for blocking variable

X_1 = the blocking variable (X = 0 or 1)

b_n = beta for n variables, measures of profitability

X_n = n independent variables

The statistical test is a test of b_1: H_0: $b_1 = 0$. I expect to confirm null at .05 level of significance.

Qualitative support. The statistical methodology for this study assesses the effect of strategic response to decline. The specific content of the strategies are lost in numbers; the quantitative analysis shows results,

but not the activities which precede these results. The qualitative research will discover the strategies used by the banks which turned around, and those which failed.

The qualitative research will take two forms. First, a letter will be sent to each bank in the sample to request information from the banks. Second, an extensive search of the literature will be undertaken to review reports about the strategies of each bank in the sample.

The following chapter presents the results of the analyses.

CHAPTER IV

PRESENTATION OF QUANTITATIVE RESULTS

This chapter reports the result of the statistical analysis. The results of each statistical test and test of hypothesis is presented in order. A discussion of the implications of the results appears in the next chapter.

Sample Identification

The industry growth in net income serves as the variable of comparison to determine if a bank has declined or improved in performance in a specific year. Annual data published by the Federal Deposit Insurance Corporation serves as the source of information for this classification method. Table 6 lists industry income, the annual change in industry net income, and the percentage change in industry net income.

A growth in net income for each year for each bank occurs when the bank's net income growth percentage exceeds that of the industry. So, growth in 1978 implies a growth greater than 21.2% over the previous year; growth in 1977 implies a growth greater than 13.2% over the previous year, and so on. The decision rule for identifying growth or decline is based on the calculation of the natural log of year n, divided by the year (n-1), after year n-1 has been transformed to reflect industry growth. Table 7 lists the calculations for each year.

The sample for the study is those banks which meet the decision rule for decline. The data used to identify the sample is the net income

Table 6

Industry Net Income Figures
For U.S. Banks

Year	Net Income (000's)	Change (From previous year)	Percentage Change (from previous year)	
59	2,372,519	—	—	—
60	3,387,129	1,014,610	.428	42.8%
61	3,401,822	14,693	.004	.4%
62	3,260,178	-141,644	-.042	-4.2%
63	3,379,546	119,368	.037	3.7%
64	3,431,832	52,286	.015	1.5%
65	3,543,895	112,063	.033	3.3%
66	3,714,246	170,351	.048	4.8%
67	4,319,012	604,766	.163	16.3%
68	4,692,982	373,970	.087	8.7%
69	4,334,567	*see note		
70	4,837,293	502,726	.116	11.6%
71	5,236,205	398,912	.082	8.2%
72	5,654,398	418,193	.080	8.0
73	6,579,194	924,796	.164	16.4%
74	7,091,264	512,070	.078	7.8%
75	7,254,611	163,347	.023	2.3%
76	7,843,277	588,666	.081	8.1%
77	8,879,405	1,036,128	.132	13.2%
78	10,759,534	1,880,129	.212	21.2%

Note: As of 1/1/69, there was a change in the financial reporting system from a cash to an accrual basis. Therefore, a valid measure is not available for the increase from 1968 to 1969. The effects of this change on the make up of the sample are discussed in the appendix.

Table 7

Calculations of Decline/Growth
Rates in Net Income for U.S. Banks

Year	Growth over previous year	Formula (+ is growth, - is decline)
78	21.2%	nl (78ni/77 x 1.212)
77	13.2%	nl (77ni/76 x 1.132)
76	8.1%	nl (76ni/75 x 1.081)
75	2.3%	nl (75ni/74 x 1.023)
74	7.8%	nl (74ni/73 x 1.078)
73	16.4%	nl (73ni/72 x 1.164)
72	8%	nl (72ni/71 x 1.08)
71	8.2%	nl (71ni/70 x 1.082)
70	11.6%	nl (70ni/69 x 1.116)
69	see note	nl (69ni/68 x 1)
68	8.7%	nl (68ni/67 x 1.087)
67	16.3%	nl (67ni/66 x 1.163)
66	4.8%	nl (66ni/65 x 1.048)
65	3.3%	nl (65ni/64 x 1.033)
64	1.5%	nl (64ni/63 x 1.015)
63	3.7%	nl (63ni/62 x 1.037)
62	-4.2%	nl (62ni/61 x .958)
61	.4%	nl (61ni/60 x 1.004)
60	42.8%	nl (60ni/59 x 1.428)

Note: Growth from 68 to 69 could not be determined (See Table 6). Therefore, declines are absolute declines in reported net income. The effects are discussed in the appendix.

reported by banks on compustat tapes for the period 1959 through 1978. One hundred thirty-six banks report their performance on the compustat tapes. Some banks have a history of less than twenty years on the tapes, however. The following chart reports the breakdown of the compustat tapes according to the number of years reported by member banks.

Table 8

Summary of Years Reported
on Bank Compustat Tapes

Number of years reporting	Number of banks
20	10
18	1
16	63
15	9
14	3
13	9
12	9
11	2
10	14
9	4
8	7
7	3
6	2
	n = 136

Source: Compustat Tapes.

The data base expands over time (in 1959, there are 20 companies reporting; in 1961, there are 11 companies reporting; in 1963, there are 74 companies reporting, etc.). This lack of stability in the data base used to generate the sample builds a bias into the decision rule, in that turnarounds will be more likely in latter years. This bias is unavoidable, in that there is no substitute data base available. This lack of stability will not cause bias in the analysis of turnaround strategies.

The following sample serves as the basis for the remainder of the study. The banks are reported by group:

Table 9
The Names and Periods of Turnaround by Category of Banks in Sample

Pure Turnaround Banks

Bank Name	Period of Turnaround
Midatlantic Banks	1972-1978
Union Planters Corp.	1971-1977
United Virginia Bancshares	1972-1978
Detroit Bancorp.	1969-1975
Society Corp.	1970-1976
Union Commerce Corp.	1966-1972
Colorado National Bancshares	1972-1978
Mercantile Texas Corp.	1971-1977
	(n=8)

Inconsistent Turnaround Banks

Bank Name	Period of Turnaround
Chemical N.Y.	1970-1976
Continental Illinois Corp.	1965-1971
Mellon National Corp.	1969-1975
Northern Trust Corp.	1970-1976
Fidelity Union Bancorp	1970-1976
First Empire State	1972-1978
First Penn Corp.	1972-1978
Hospital Trust Corp.	1972-1978
New England Merchant's	1970-1976
United Bancorp of N.Y.	1971-1977
First Maryland Bancorp	1971-1977
Maryland National Corp.	1970-1976
Huntington Bancshares	1970-1976
National Detroit Corp.	1969-1975
Pittsburgh National Corp.	1970-1976
Union National Bank Pittsburgh	1969-1975
Liberty National Corp.	1969-1975
Republic of Texas Corp.	1970-1976
Texas Commerce Bancshares	1964-1970
Bankamerica Corp.	1960-1966
First Hawaiian Inc.	1971-1977
Hawaiian Bancorp Inc.	1969-1975
Western Bancorporation	1970-1976
	(n=23)

Pure Decline Banks

Bank Name	Period of Turnaround
Shawmut Corporation	1969-1975
Baybanks, Inc.	1969-1975
Greater Jersey Bancorp	1971-1977
Hartford National Corp.	1969-1975
Lincoln First Banks	1969-1975
Marine Midland	1969-1975
Equimark Corp.	1970-1976
	(n=7)

Inconsistent Decline Banks

Bank Name	Period of Decline
State St. Boston Corp.	1969-1975
CBT Corp.	1969-1975
Girard Corp.	1969-1975
Philadelphia National Corp.	1971-1977
Banco Popular de Puerto Rico	1972-1978
Financial General Bankshares	1971-1977
First Union Corp. (N.C.)	1971-1977
General Bancshares	1970-1976
Indiana National Corp.	1972-1978
Southwest Bancshares	1972-1978
Bancal Tri-state Corp.	1971-1977
Crocker National Corp.	1969-1975
Security Pacific Corp.	1969-1975
	(n=13)

The total sample size is 51. There are 31 banks which had turnarounds, and there are 20 banks which had declines. The period under study starts in 1969 and later for 48 of the 51 banks. The performance of each bank for the period of interest is presented in the appendix, along with a narrative history of each bank for the applicable period.

Report of Results

For each bank in the sample, performance measures over the period of turnaround or decline are taken from the compustat tapes. These variables are then used to compute the variables of interest for the study. The variables are:

Cash and due from banks
U.S. treasury notes and securities
Due for banks (memo entry)
Total investment securities
Trading account securities
Federal funds sold and securities purchase with agreements to resell
Loans (gross)
Total assets (gross)
Total demand deposits
Total deposits (worldwide)
Time and savings deposits
Reserve for bad debt losses
Preferred stock (par value)
Total book value
Interest on fees and loans
Interest on state and town obligations
Total interest and dividends on investments
Aggregate loan and investment revenue
Trading account income
Interest on due from banks
Number of employees
Salaries and wages of officers and employees
Pension and employee benefits
Total interest on deposits and borrowings
Provision for loan losses
Total interest expense
Aggregate other current operating expenses
Total current operating expenses
Current operating earnings before expenses
Net income
Net credit or charge to reserves for debt recovery
Average taxable investment
Average non-taxable investment
Average deposits: time and savings
Average deposits: demand
Total savings and deposits
Total time deposits

The variables used in the study are:

Profitability Measures

v1) net income/average equity
v2) return on earnings assets
v3) net interest/earning assets

Expense Control Measures

v4) operating expense/earning assets
v5) overhead/earning assets
v6) interest on deposits/all deposits
v7) interest on deposits/time and savings

Employee Utilization Measures

v8) net income/employees
v9) payroll expense/employees
v10) assets/employees

Asset Management

v11) gross loans/all deposits
v12) cash and treasuries/demand deposit accounts

Revenue Enhancement

v13) loan income/gross loans
v14) securities income/securities
v15) muni income/munis

Credit Quality Control Measures

v16) loan loss provision/earning assets
v17) gross chargeoffs/loans

Leverage and Loss Coverage

v18) equity/assets
v19) loan loss coverage ratio
v20) reserve/loans

Growth Measures

v21) asset growth
v22) deposit growth
v23) equity growth

The definitions of the compustat variables, and the calculations of the variables of interest, are explained at length in the appendix. The 23 variables are analyzed through the remainder of the study.

Regression. The twenty three variables which are used to study the turnaround process have proven successful as explanatory variables in other studies (Ford, 1978), but have not been used in the context of this type of study. In order to assess the explanatory power of these variables for this study, a regression analysis is performed. The research is designed to explain the turnaround process. Due to high levels of multicollinearity, the regression model cannot be used for the analysis of the turnaround process. However, it is used to assess the power of the 23 performance variables to explain the variance in net income among the groups.

The groups under study are turnaround and non-turnaround groups. Each bank in the sample is analyzed through a six year period. The regressions are run on all data, all groups for all years of the study; then, on the data for the turnaround and decline groups for separately, for the six years of the study; then, on each group for each year of the study: first year, second year, third year, fourth year, fifth year, and sixth year.

The first two sets of regressions present no special computational problems. The results are presented in Table #10.

There are problems in the calculation of the R^2 for each year of data in both the decline and turnaround groups. The problem is due to multicollinearity. In the event of high multicollinearity, the data

matrix can not be inverted. Recall from the previous chapter that the beta coefficient is estimated by the formula $(X'X)^{-1}X'Y$. With high multicollinearity, the X'X matrix is singular; it can not be inverted. No estimate of beta can be made; thus, no R^2 can be computed. This problem can be solved by purging the data of multicollinearity. One method of purging the data of multicollinearity is through the use of principal components.

Table 10

Regressions: All Data, Turnaround Group, and Decline Group

Sample	R^2
All data	.51802
Turnaround group (six years)	.61088
Decline group (six years)	.78943

Principal components transforms the original data into a data set of orthogonal variables. These new variables are a linear transformation of the original data set which do not suffer the problem of multicollinearity. This transformed data set can be used as predictors in the regression model without any loss of predictive efficiency (Tatsuoka, 1971). Principal components computes a new variable, Y, through the use of the transformation matrix V:

$$Y = XV$$

Where Y is an n by p matrix, X is an n by p matrix, and V is a p by p matrix. In the pure principal components model, the number of components is equal to the number of variables. Data reduction can take place by

retaining only the meaningful components. Many decision rules have been proposed to choose "meaningful" components: in this context, the rule chosen is % of variance explained. Sixteen components represent 94.3% of the variance. Since the last seven components contribute only marginally to the variance, they are dropped from the subsequent analysis.

Thus, for each year, a regression is run on the transformed data matrix. The results of these regressions are listed on Tables 11 and 12.

Table 11

Principal Components Regression on Each Year of Turnaround Sample

Year of Turnaround	R^2
year 1	.52988
year 2	.66159
year 3	.79958
year 4	.69036
year 5	.82265
year 6	.65102

Table 12

Principal Components Regression on Each Year of Decline Sample

Year of Decline	R^2
year 1	.79604
year 2	.98652
year 3	.87664
year 4	.93850
year 5	.95558
year 6	.86354

The variables do explain a substantial proportion of the variance in net income. Subsequent analysis assesses the process of turnaround.

Hypothesis test: Rate of decline. The hypothesis is:

H_o: $RD_t = RD_n$, where RD_t = rate of decline for the turnaround group

RD_n = rate of decline for the non-turnaround group

H_a: $RD_t > RD_n$

The rate of decline in net income is computed as follows:

$$\frac{\frac{X_1 - X_0}{X_0} + \frac{X_2 - X_1}{X_1} + \frac{X_3 - X_2}{X_2}}{3}$$

X_n = net income for year n

The test is run on the mean rate of decline for pure decline and turnaround groups, and on the mean rate of decline for the full decline and turnaround groups.

The following table records the results of the t-tests on the pure groups.

Table 13

Tests of Rate of Decline (Pure Groups)

Group	n of cases	$\bar{X}$	t-value	DF	One-tailed prob.
Decline	7	.0073			
Turnaround	8	-.3680	1.22	7.02	.131

The following table records the results of the t-tests on the full sample (pure and impure groups).

Table 14

Test of Rate of Decline (Impure Groups)

Group	n of cases	$\bar{X}$	t-value	DF	One-tailed prob.
Turnaround	31	-.0959			
Decline	20	.0034	-1.21	30.57	.1185

While the differences are in the hypothesized direction, neither t-value is significant at the hypothesized level of acceptance. The t-value is an approximation, calculated by the formula:

$$t = \frac{(X-X) - (u-u)}{\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}}$$

This approximation is necessary because the groups do not have equal variance. In a test for equality of variance, the null hypotheses that the variance are equal is rejected (for pure groups, F = 868.45, significant at the .000 level; for impure groups, F = 161.91, significant at the .000 level).

Hypotheses test: Performance ratios. Phase 1 is the period of decline during the first three years of the six year period under study. For each bank, performance ratios are calculated for seven years; the base year (X_0), and the six subsequent years (X_1 through X_6). Performance is defined as a change in any ratio over time. Thus, performance for ratio A for period phase one is:

$$\left[\frac{X_1 - X_0}{X_0}\right] + \left[\frac{X_2 - X_1}{X_1}\right] + \left[\frac{X_3 - X_2}{X_2}\right] \Big/ 3$$

T-tests are calculated to assess differences in mean performance for the pure groups (decline vs. turnaround), and for the full sample (pure groups and inconsistent cases, decline vs. turnaround).

The following table reports the results for pure groups, phase 1.

Table 15
Performance Ratios: Means, T-values and Significance for
Phase 1: Pure Groups

Variable		Decline Group Mean	Turnaround Group Mean	T-value	Sig.
v1[*1]	net income/average equity	-.0380	-.5031	1.23	No
v2	return on earning assets	.0431	.1167	-1.42	No
v3	net interest/earning assets	-.0409	.0439	-2.53	**
v4	operating expense/earning assets	.0332	.1505	-2.01	*
v5[*1]	overhead/earning assets	.0065	.2140	-2.18	*
v6	interest on deposits/all deposits	.2914	.2542	.38	No
v7[2]	interest on deposits/ time and savings	.3501	.1726	2.33	*
v8[*1]	net income/employees	-.0359	-.4572	1.26	No
v9	payroll expense/employees	.0643	.0675	-.27	No
v10[*1]	assets/employees	.1070	.0020	4.85	***
v11[*1]	gross loans/all deposits	-.0056	.0136	-.89	No
v12	cash and treasuries/demand deposit accounts	.0465	.0007	1.119	No
v13	loan income/gross loans	-.0147	.1052	-3.42	**
v14	securities income/securities	.0223	.0892	-2.50	**
v15[*1]	municipal income/municipals	-.0078	.0042	-2.53	**
v16[*1]	loan loss provision/earning assets	.1847	.7007	-2.29	*
v17	gross chargeoffs/loans	.4761	.2442	.52	No
v18[*1]	equity/assets	-.0873	-.0182	-2.93	**
v19[*1]	loan loss coverage ratio	-.1027	-2.1205	1.08	No
v20[*1]	reserve/loans	-.0688	.0054	-1.48	No
v21	asset growth	.1516	.0736	3.29	**
v22[*1]	deposit growth	.1528	.0637	4.15	***
v23[*1]	equity growth	.0472	.0513	-.21	No

1) Approximation: separate variance estimate.
2) Invalid due to sample size (1).

*** = .001
** = .05
* = .1

The variables which are significantly different are:

v3: net interest inc/earning assets
v4: operating expense/earning assets
v5: overhead/earning assets
v7: interest on deposits/time and savings
v10: assets/employees
v13: loan income/gross loans
v14: securities income/securities
v15: municipal income/municipals
v16: loan loss provision/earning assets
v18: equity/assets
v21: asset growth
v22: deposit growth

The Table #16 lists the results on phase 1 for the whole sample.

The variables which are significantly different are:

v5: overhead/earning assets
v7: interest on deposits/time and savings
v10: assets/employees
v15: municipal income/municipals
v22: deposit growth

These variables were also significant for the comparison of pure groups. The implications of these differences are discussed in the next chapter.

Phase 2 is the last three years of the period under study. While all banks in the sample declined during phase 1 relative to industry wide performance as measured by growth in net income, performance during phase 2 is different for the groups. Pure groups exhibit three straight years of decline or growth, while the full sample includes banks with pure records of performance, and banks which exhibit growth or decline in two of three years. Two years of decline classifies a bank in the decline group, while two years of growth classifies a bank in the growth group. Performance is again defined as a change in a ratio over time. Thus, performance for ratio A for period phase two is:

Table 16

Performance Ratios: Means, T-values, and Significance for Phase 1, Impure Groups

Variable		Decline Group Mean	Turnaround Group Mean	T-value	Sig.
v1[1]	net income/average equity	-.0518	-.1749	-1.23	No
v2	return on earning assets	.0923	.0776	-.49	No
v3	net interest/earning assets	.0026	-.0005	-.09	No
v4	operating expense/earning assets	.0692	.0951	.91	No
v5[1]	overhead/earning assets	.0297	.0887	1.71	*
v6	interest on deposits/all deposits	.2849	.2189	-1.54	No
v7	interest on deposits/ time and savings	.1896	.0956	-1.92	*
v8[1]	net income/employees	-.0335	-.1784	-1.25	No
v9	payroll expense/employees	.0721	.0659	-.71	
v10	assets/employees	.1000	.0459	-2.71	**
v11	gross loans/all deposits	.0013	.0160	1.13	No
v12	cash and treasuries/demand deposit accounts	.0571	.0290	-1.12	No
v13	loan income/gross loans	.0344	.0522	.72	No
v14	securities income/securities	.0478	.0511	.17	No
v15[1]	municipal income/municipals	.0041	.0283	1.81	*
v16[1]	loan loss provision/earning assets	.2659	.4447	1.22	No
v17[1]	gross chargeoffs/loans	.3650	1.3278	1.04	No
v18[1]	equity/assets	-.0517	-.0304	1.37	No
v19[1]	loan loss coverage ratio	-.0460	.1451	.25	No
v20[1]	reserve/loans	-.0568	-.0235	1.67	No
v21	asset growth	.1236	.0978	-1.50	No
v22	deposit growth	.1184	.0908	-1.76	*
v23	equity growth	.0580	.0598	.22	No

1) Approximation based on separate variance estimate

*** = .001
** = .05
* = .1

$$\left[\frac{X_4 - X_3}{X_3}\right] + \left[\frac{X_5 - X_4}{X_4}\right] + \left[\frac{X_6 - X_5}{X_5}\right] \Big/ 3$$

Table 17 reports the results for pure groups, phase 2.

Table 17
Performance Ratios: Means, T-values and Significance for Phase Two, Pure Groups

Variable	Decline Group Mean	Turnaround Group Mean	T-Value	Sig.
v1[1]	-.3887	2.0761	-1.08	No
v2	.1023	.0176	2.19	*
v3	.0546	.0262	1.05	No
v4	.1263	.0169	2.41	**
v5	.1719	.0118	2.35	**
v6	.1524	.0381	1.74	No
v7[1]	.1157	.0235	1.56	No
v8[1]	-.3129	2.3151	-1.03	No
v9	.0791	.0785	.03	No
v10	.0348	.0790	-2.35	**
v11	-.0083	.0126	-.99	No
v12	.0955	.0712	.67	No
v13	.0860	.0137	1.96	*
v14[1]	.0742	.0357	1.56	No
v15[1]	.0788	.0505	.95	No
v16[1]	.6049	-.0670	3.46	**
v17[1]	.5068	.3500	.38	No
v18[1]	.0114	-.0246	.92	No
v19[1]	-.1046	2.9741	-1.09	No
v20[1]	-.0544	-.0619	.18	No
v21[1]	.0238	.1391	-1.76	No
v22[1]	.0404	.1281	-1.33	No
v23[1]	.0300	.0514	-.39	No

1) t-approximation based on separate variance scores.

*** = .001
** = .05
* = .1

The variables which are significantly different are:

v2: return on earning assets
v4: operating expense/earning assets
v5: overhead/earning assets
v10: assets/employees
v13: loan income/gross loans
v16: loan loss provision/earning assets

The next table lists the results on phase 2 for the whole sample.

Table 18
Performance Ratios: Means, T-values and Significance for Phase Two, Impure Groups

Variable	Decline Group Mean	Turnaround Group Mean	T-Value	Sig.
v1[1]	-.1226	.4717	1.08	No
v2	.0686	.0316	-1.58	No
v3	.0478	.0277	-1.26	No
v4	.0828	.0434	-1.60	No
v5[1]	.1257	.0509	-2.47	**
v6[1]	.1131	.0545	-1.36	No
v7[1]	.0853	.0164	-1.74	No
v8[1]	-.0475	.5681	.95	No
v9	.0824	.0847	.21	No
v10	.0422	.0590	1.41	No
v11	.0126	-.0020	-1.41	No
v12	.0519	.0992	1.85	*
v13[1]	.0491	.0277	-.97	No
v14[1]	.0558	.1085	.99	No
v15	.0574	.0530	-.26	No
v16	.5028	.3442	-1.04	No
v17	.5109	.5467	.16	No
v18[1]	.0056	-.0048	-.64	No
v19[1]	.0095	.7480	1.19	No
v20	-.0622	-.0685	-.31	No
v21[1]	.0587	.1021	1.80	*
v22[1]	.0596	.0974	1.61	*
v23[1]	.0564	.0760	1.15	No

1) t-test approximation based on separate variance estimate.

*** = .001
** = .05
* = .1

The variables which are significantly different are:

v5: overhead/earning assets
v12: cash & treasuries/demand deposit accounts
v21: asset growth
v22: deposit growth

V5 (overhead/earning assets) is the only variable which is significantly different during phase 2 for both the pure group and full sample comparison. It is also the only variable which is significant during all comparisons (phase 1 and phase 2).

The original hypothesis of the study states that there would be no difference in performance during phase 1, while there would be significant differences during phase 2. This hypothesis is rejected. There are significant differences during both phase 1 and phase 2; there are more differences in phase one. The implications will be discussed in the next chapter.

Discriminant Analysis

Discriminant analysis on Phase 1. Phase 1 is the first three years of performance for each bank in the study. By definition, each bank has declined relative to industry performance in net income growth. By definition, there should be no difference between the groups, turnaround and decline, in phase 1. Differences should begin to appear in phase 2, the last three years of performance.

The test for differences between the groups during phase 1 and during phase 2 is discriminant analysis. As previously stated, discriminant analysis seeks a linear combination of variables which achieves maximum separation between the groups. The assumptions of the method are that the dispersion of the groups are equal, and that the data is multivariate normal. There is some debate about the second assumption; Eisenbeis and Avery (1972) argue that nonmultivariate normal data may be used in discriminant analysis without biasing the results significantly.

Discriminant analysis serves several purposes. First, it provides a set of weights which can be used to classify cases into one group or another. In a general sense, this can serve for description or prediction. Given a previously unanalyzed observation, a researcher can use

the classification function developed in a discriminant analysis study to classify that observation, subject to an error rate. Second, it can provide standardized discriminant coefficients. The magnitude of these coefficients give some indication of the relative contribution of each discriminating variable. In a general sense, given two groups with five discriminating variables, if a particular coefficient is twice as large as any other coefficient, then that larger coefficient contributes more to the differences between the groups (Klecka, 1974). There are problems with this method of interpretation, in that the standardized coefficients do not take into account correlation between the original variables (Perreault, Behrman, and Armstrong, 1979). The effects of this problem will be discussed in a later section of the study. Finally, the discriminant analysis procedure provides a test for the significance of differentiation between the groups.

The hypothesis for phase 1 states that there will not be significant discrimination between the groups during phase 1. The methodology chosen to test this hypothesis is direct discriminant analysis, as programmed in the Statistical Package for the Social Sciences (SPSS) (Nie, et al., 1975). At this initial stage of analysis, all variables are entered into the discriminant function. If there is significant discrimination, the structure correlation matrix, which provides the correlations between the discriminant function and the discriminating variables is then used to identify the most important discriminators. This reduced set is then used in the next step of the analysis, to further judge the discriminatory power of this reduced set.

The tests are run on pure groups and impure groups for the beginning and the end of phase 1, that is, the first and third year of the period of study. The following table presents the Wilk's lambda and its corresponding test of significance. The Wilk's lambda is a measure of the success of discrimination between the groups.

Table 19

Discriminant Analysis on Phase 1:
Pure and Impure Groups

Group	Year	Wilk's Lambda	Significance
Pure	1	.0938245	.2882
Pure	3	.1369178	.4421
Impure	1	.4946657	.7212
Impure	3	.1691671	.0563

Note: In the analysis of pure groups, the tolerance parameter is .0005; in the analysis of impure groups, the tolerance parameter is .001. This reduction in tolerance was necessary to force more variables into the pure discriminant functions.

At this point, a further test of the hypothesis that there is no difference between the groups is performed on the impure groups at the third year. This is the Chow test (Kmenta, 1971), which is a test for the stability of the beta coefficients across groups. The null hypothesis for this test is:

$$H_o: \quad b_1 = b_2 = ... \; b_n$$

The acceptance of the null hypothesis leads to the conclusion that the beta coefficients across groups are stable; therefore, the groups are from the same population. The test statistic is:

$$\frac{(SSE_c - SSE_1 - SSE_2)/K}{(SSE_1 + SSE_2)/n_1 + n_2 - 2K}$$

where SSE_c is the sum of squares residual for the combined groups

SSE_n is the sum of squares residuals for the nth group

n_1 and n_2 is the n of observations in groups 1 and 2

K is the number of observations

The results of this test confirm the results of the discriminant analysis; the computed F-statistic is .615, which is not significant. Thus, the hypothesis that there is no difference between the groups during phase 1 is supported.

Discriminant analysis on Phase 2. The hypothesis for phase 2 states that there will be significant differences when a discriminant analysis is performed on phase 2. The following table presents the results of these tests. The tests are performed on the pure and impure groups, for the fourth and sixth years.

As in phase 1, a further test is performed on the impure groups during the sixth year to ascertain if there are differences between the groups. The test is the chow test, as in the previous section. The F-statistic is 6.101, which is significant at the .05 level.

An inspection of the results table reveals that there are significant differences in discrimination for the impure groups throughout phase 2, and for the pure groups during the fourth year. Thus, the hypothesis is confirmed for the impure groups, and partially confirmed for the pure groups.

Table 20

Discriminant Analsyis on Phase 2:
Pure and Impure Groups

Group	Year	Wilk's Lambda	Significance
Pure	4	.02939202	.0386
Pure	6	.0467443	.1047
Impure	4	.1807332	.0146
Impure	6	.2194888	.0098

Note: In the analysis of pure groups, the tolerance parameter is .0005; in the analysis of impure groups, the tolerance parameter is .001. This reduction in tolerance was necessary to force more variables into the pure discriminant functions.

The major purpose of this study is the analysis of differences in performance between banks that have turned around, and those that have failed to turnaround. To this point, the discriminant analysis has confirmed that there are differences between the impure groups in phase 2 (years 4 and 6), and in pure groups during year 4. The next step is to identify those variables which contribute the most to discrimination. Since the impure groups exhibit consistent discrimination, they will be subjected to further analysis.

An approach which is often used to identify the contribution of each variable in a discriminant analysis model is the use of standardized coefficients. Perreault, Behrman and Armstrong (1979) argue that this approach can be quite misleading because the standardized coefficients do not account for the correlations between the predictors. If two predictors are highly correlated, the discriminating power of those predictors

may be split between them; therefore, the standardized coefficients would be small.

A second common approach used to identify the most important predictors is the use of partial F-tests. The partial F-test is a stepwise procedure in which a one way analysis of variance is performed on the full set of discriminating variables for the groups; that variable which has the highest F is the first variable used as a discriminator. Then, the F-tests are recomputed with the initial entry variable serving as a covariate. The variable with the highest F on this second test is then entered, and the analysis of variance is recomputed with the two previously entered variables serving as covariates. This series of stepwise partial F-tests continues until all variables with F-values greater than a predetermined limit are entered into the discriminant function. This method suffers difficulties under the presence of multicollinearity; as the stepwise precedure continues, the value of the F for a particular variable will fluctuate, because of the variable's correlation with other variables.

The twenty three variables of this study do exhibit collinearity. Therefore, the use of standardized variables or partial F-tests to choose a reduced set of variables is not the appropriate one. Following the arguments of Perreault, Behrman and Armstrong (1979), the correlations between the predictor variables and the discriminant function are used to identify the most important variables.

The ten variables with the highest correlation are then used as independent variables in a discriminant analysis. Their power is tested through the use of the Wilk's lambda, and their classification performance.

The discriminatory power of the next variable, the variable in the original model which has the eleventh highest correlation with the discriminant function) is assessed through the use of the test of significance of the difference in Mahalanobis distance between the two models. The test is as follows:

$$\frac{m - m - 1}{n - p} \cdot \frac{C(D^2_n - D^2_p)}{1 + CD^2_p} \qquad \text{where } C = \frac{m_1 m_2}{m(m-2)}$$

m_1 = sample size of group 1

m_2 = sample size of group 2

m = total sample

n = # of predictors in full set

p = # of predictors in reduced set

D^2_n = Mahalanobis distance for n predictors

D^2_p = Mahalanobis distance for p predictors

The following table presents the matrix of correlations between the discriminating variables and the discriminant function for the impure groups years 4 and 6. The ten variables which provide the highest correlation serve as the discriminators for the remaining discriminant analysis. For the fourth year, these variables are: net income/employees, interest on deposits/all deposits, assets/employees, loan loss coverage ratio, equity/assets, gross loans/deposits, return on earning assets, net income/average equity, securities income/securities, and overhead/earning assets. For the sixth year, these variables are net income/employees,

Table 21

Correlations Between Discriminant Functions and Discriminating Variables for Impure Groups, Phase 2

Fourth Year		Sixth Year	
v8	.19225	v8	.36809
v6	.16742	v5	-.35952
v10	.14351	v4	-.35497
v19	-.12875	v21	.31535
v18	.12166	v16	-.30664
v11	.11236	v17	.30583
v2	.10006	v23	.26363
v1	.09044	v1	.24830
v14	.08684	v15	.21985
v5	-.08400	v2	-.21769
v9	.06838	v18	.19250
v7	.05979	v10	.18622
v13	.05599	v22	.18125
v15	-.05482	v13	-.16819
v3	-.03795	v7	-.15920
v23	.03434	v19	-.12421
v22	-.02829	v9	.10174
v17	-.01932	v3	-.10063
v20	-.01492	v6	-.04986
v16	.01119	v12	.04795
v4	.00987	v20	.03621
v21	.00764	v14	-.03372
v12	-.00450	v11	-.01783

overhead/earning assets, operating expense/earning assets, asset growth, loan loss provision/earning assets, gross chargeoffs/loans, equity growth, net income/average equity, municipal income/municipals, and return on earning assets.

Discriminant analysis on the reduced set of variables. This section describes the process of testing a reduced set of predictor variables. The ten most important variables are tested for significance in discrimination as measured by the significance of Wilk's lambda, and the results are presented.

There is a full presentation of the results for the significant functions. In addition to the Wilk's lambda, the canonical correlation coefficient is presented. This is a measure of correlation between the discriminant function and the dummy variables which represent group measurement. Then, the classification functions are presented. There are two functions, each of which follows the form:

$DS = c_{ij}X_{ik}$ where DS is a discriminant form on case i

c_{ij} is the coefficient for the variable k in function j

X_{ik} is the k independent variables for case i.

Each case is classified by computing its discriminant scores; it is assigned to that group in which it scores highest. Following the classification functions, the standardized discriminant coefficients are presented. This is followed by presentation of the correlations between the predictor variables and the discriminant function. This is followed by

a presentation of the results of classification. The final test listed in each case is the result of the Box's M test, which is a test for the equivalence of covariance matrices between the groups.

Two problems are inherent in the preparation of these results. The first problem is the bias in classification results. When the classification function is used to classify the same data that was used to construct the function, there is an optimistic bias in the results. This happens because the sample is used to classify itself. In the case of large samples, the hold-out method can be used to eliminate this bias. In the hold-out method, a subset of the original data sample is held out during the construction of the classification functions. This reduces the bias since the sample held out for classification is classified by a function which has been generated from another sample. In this particular study, the hold-out method is not possible because of the small sample size (51 cases in the largest groupings). Another method which reduces the bias in classification is the Lachenbruch method (Lachenbruch and Mickey, 1968). In this method, classification takes place through an iterative procedure. As each case is classified, it is held out from the sample. A classification function is constructed without the case to be classified, and then used to classify the case. Each case in the sample is subjected to the same procedure. Thus, the classification results are obtained in a less biased method. This is the method employed by this study, through the use of the Bio-medical data processing package. Classification results by both methods are presented; the classification results obtained by the Lachenbruch method are the less biased results.

The second problem inherent in the preparation of the results is the problem of missing data. There are twenty three independent variables across six years for each company. In some instances, data for one variable in a particular year may be missing. The packaged programs do not allow for missing data in the process of building the classification functions, although SPSS will classify cases with missing variables, For each run, the n of cases may be reduced in the process of building classification functions; the reduction in group size is due to missing data.

The results of the analysis of the fourth year are presented first; these will be followed by a presentation of the results of the analysis on the sixth year.

The ten most important predictors in the fourth year did not discriminate successfully when used alone. The ten variables produce a Wilk's lambda of .5954113, which is not significant (the significance is .1131). In this case, more predictor variables are added to the ten in an attempt to gain successful discrimination. The remaining variables are added to the predictor variables in order of their rank in the structure correlation matrix; as they are added, their contribution to discrimination is tested through the use of an F-test which tests for significant differences in Mahalanobis distance. If there is a significant difference in Mahalanobis distance, then the added variables do contribute to discrimination, and should be included in the analysis.

The tests for the contribution of the remaining variables indicate that the addition of several variables to the reduced set of ten variables does not contribute significantly to successful discrimination.

First, three variables (payroll expense/employees, interest on deposits/time and savings, and loan income/gross loans) are tested for additional discrimination. These three variables rank eleventh, twelfth, and thirteenth in terms of correlation with the discriminant function. Second, four variables are tested for additional discrimination (municipal income/municipals is added to the previous group of three variables); then a set of five variables is tested for additional discrimination (net income/earning assets is added to the list; this variable ranks fifteenth in the correlation matrix). The F-statistics and the appropriate degrees of freedom for each test are:

addition of three variables	2.618	3,23
addition of four variables	1.916	4,22
addition of five variables	1.512	5,21

In each case, the F is not significant at a level of .05 significance. At this point, further testing of additional sets of variables for differences in discrimination is terminated for two reasons; first, the sixteenth variable, equity growth, has a correlation of .03434 with the discriminant function. This correlation is low; it is not reasonable to expect that the addition of this variable would offer substantively different results than the addition of the previous variables. Second, the aim of the study is to identify the most important characteristics of the differences between the turnaround and decline groups. A model of sixteen or seventeen variables would not offer much better description than a model of twenty three variables. The fact that it is difficult to build a reduced model of discrimination in the fourth year is not surprising.

At this point in time, the sample banks have just begun the turnaround. The effects of this effort appear at a later stage (that is, at year six).

The classification functions, standardized coefficients, and classification performance of the full set of twenty three variables is presented on Table #22.

For the sixth year, the ten predictors variables performed well. They produced a Wilk's lambda of .4358903, which is significant at the .05 level (significance of .0017). The full set of results for this analysis is presented on Table #23.

The addition of additional variables does not add significantly to the discrimination provided by these ten variables. In a test of the differences in Mahalanobis distance, the difference added by the eleventh variable, v18 (equity/assets), is not significant. The test of the difference added by the eleventh and twelfth variable (equity/assets and assets/employees) is not significant. The difference added by the next five variables (equity/assets, assets/employees, deposit growth, loan income/gross loans, and interest on deposits/time and savings) is not significant. The appropriate F-statistics and their degrees of freedom are as follows:

addition of the eleventh variable	1.872	1,29
addition of the eleventh and twelfth	1.549	2,28
addition of eleventh through fifteenth variable	.64	5,25

The ability of the ten variables used to discriminate is confirmed. These variables provide the basis for analysis of the turnaround process presented in the next chapter.

Table 22

Full Set of Predictors of 4th Year, Impure Groups;
Discriminant Analysis Results

Wilk's Lambda: .1807332 Sig.: .0146
Canonical Correlation: .9051336

Classification Functions

	Turnaround	Decline
v1	-179.1437	44.62549
v2	21761.60	23112.58
v3	30807.72	-31735.12
v4	5862.585	4575.558
v5	-8710.018	-8222.437
v6	-37880.55	-36310.80
v7	-326.5968	-625.8414
v8	2.222433	-4.447415
v9	8.896036	9.931354
v10	.1364018	.1453683
v11	1674.960	1602.135
v12	348.0551	308.0456
v13	12474.96	12674.52
v14	-459.0847	-245.1863
v15	657.3229	634.1490
v16	-34911.50	-33190.96
v17	-17490.26	-19282.35
v18	6642.754	7352.675
v19	-.07082744	-1.637793
v20	10250.75	8307.480
v21	-79.12942	38.96393
v22	-112.3703	-211.6190
v23	39.73829	88.61458
(constant)	-1212.173	-1233.946

Standardized Discriminant Coefficients

v1	2.06803
v2	3.34598
v3	-1.92102
v4	-4.17855
v5	.81107
v6	4.43454
v7	-1.65960
v8	-4.68766
v9	.36261
v10	.73854

(continued)

Table 22 (continued)

v11	-1.61944
v12	-2.90999
v13	.47829
v14	.47431
v15	-.15891
v16	1.20361
v17	-1.66500
v18	1.89658
v19	-2.65084
v20	-1.30506
v21	2.62659
v22	-2.09732
v23	.50824

Classification Matrices

Without Bias Correction

		Predicted	
		1	2
Actual	1	16	1
	2	0	20

% correctly classified 97.3

Lachenbruch Method

		Predicted	
		1	2
Actual	1	12	5
	2	9	11

% correctly classified 62.2

1 = decline
2 = turnaround

Box's m: could not be computed.

Table 23

Reduced Set of Predictor Variables: Sixth Year, Impure Group

Wilk's Lambda:	.4358903	Sig.:	.0017
Canonical Correlation:	.7510724		

Classification Functions

	Decline	Turnaround
v8	1.621612	1.563296
v5	374.0923	186.3944
v4	196.3570	117.3750
v21	41.49195	56.84478
v16	6.897981	550.1231
v17	-124.2870	546.5059
v23	67.72046	84.94623
v1	-23.23303	-21.13189
v15	2803.889	3045.806
v2	1227.104	1335.434
(constant)	-135.8100	-146.6344

Standardized Discriminant Coefficients		Correlations Between Disc. Function and Variables	
v8	.09427	v8	-.61015
v5	.47353	v5	.59595
v4	.43212	v4	.58841
v21	-.51845	v21	-5.2274
v16	-.72795	v16	.50830
v17	-.77552	v17	-.50695
v23	-.46402	v23	-.43701
v1	-.06291	v1	-.41160
v15	-.44302	v15	-.36444
v2	-.45245	v2	.36086

Classification Matrices

Without Bias Correction

		Predicted 1	Predicted 2
Actual	1	14	2
	2	3	22

% correctly classified 87.8

Lachenbruch Method

		Predicted 1	Predicted 2
Actual	1	11	5
	2	6	19

% correctly classified 73.2

1 = decline
2 = turnaround

Box's M	160.53	F:	2.0331	Sign.:	.0000

In the sixth year, the test of equal covariance between the groups, the Box's M statistic, finds statistical significance. Since the null hypothesis of this test is that the covariances are equal, the null must be rejected. In essence, the data violate the assumption of equal dispersion among the groups. However, this violation may not be serious. While it is often suggested that the use of the quadratic discriminant function is more appropriate under these conditions, there is some evidence that the linear function is satisfactory if the dispersion matrices are not too different (Lachenbruch, 1975). Furthermore, with a different sample size and a large number of variables, there is a conservative bias in the test. The null hypothesis is frequently rejected when the groups are in fact of equal dispersion. Thus, it is reasonable to assume that the use of linear discriminant analysis is appropriate.

Discriminant analysis on factor scores. The process of comparing twenty three performance variables is, at best, unwieldly and at worst, impossible. The reduced number of variables lends simplicity to the data by finding a subset of the data which captures the difference between the groups. Since the performance variables are grouped into eight different classes, another approach to simplifying the analysis is available. This approach involves the construction of an index to represent each group of variables, and then using these indices as independent variables in the discrimant analysis. This approach is attempted and the results presented in this section.

A method for building indices is the use of factor analysis. Factor analysis is the general name for a wide ranging number of techniques which can be used to analyze data. The method used in this specific

approach is principal factoring (Kim, 1975). Principal factoring involves the construction of factors through the principal components. The method is equivalent to the method discussed in a previous section. A transformation matrix is constructed which will transform the original data into a new data set, which is a linear extension of the first data set. This new data set is composed of uncorrelated independent variables. Each case can be scored through the use of these new independent variables.

Mathematically, the factor score matrix, F, is:

$F = (ZV)L^{-1/2}$, where Z = original data in standard form

V = the transformation vector

L = dispersion matrix of transformed variables

In the context of this study, the index is built on each group of variables, for the first factor. The first factor captures the major portion of the variance in the original data; it can be used without loss of a major portion of the explanatory information. The indices are built as follows:

Profit Index

$F_i = (Z_i V_j)L^{-1/2}$, where F_i is the score of the ith case

Z_i is the standardized observation for the ith case on variables one, two, and three (net income/aver. equity; return on earning assets; net interest/earning assets)

V_j is the transformation vector for the first factor

L is the variance of the first factor.

Expense Control Measure Index: This index is built from the variables:

operating expense/earning assets

overhead/earning assets

interest on deposits/all deposits

interest on deposits/time and savings

The employee utilization index is built from the variables which measure employee utilization; the asset management index is built from the variables in the asset management class, and so forth. A total of eight indices are built, to compute eight scores. The coefficients used to compute the scores are listed on Table #24. For each index, the percent of variance captured by the first factor is also listed.

These factor scores are then subjected to a discriminant analysis. The purpose of the discriminant analysis is twofold: first, to confirm that there is discrimination between the decline and turnaround groups during phase 2 (this is entirely equivalent to our original hypothesis); second, to ascertain which scores contribute the discriminatory power. Since these scores reflect performance dimensions, any score which contributes to discrimination in the turnaround process is an area of practical concern for the management which may attempt to enact a turnaround.

The discriminant analysis on the factor scores of the pure groups is significant for year three (at the .05 level). For the impure groups, the discrimination is significant in years three, four, and six. The

Table 24

Eight Indices Constructed from 23 Variables and the Coefficients for each Variable

Index	Variables	% Variance captured by first factor	Coefficients
Profit	Net income/average equity	46.1	-.36232
	Return on earning assets		+.59824
	Net interest/earning assets		+.48362
Expense Control	Operating expense/earning assets	52.7	+.47082
	Overhead/earning assets		+.34651
	Interest on deposits/all deposits		+.36207
	Interest on deposits/ time & savings		+.03453
Employee Utilization	Net income/employees	62.2	+.41594
	Payroll expense/employees		+.34080
	Assets/employees		+.49706
Asset Management	Gross loans/all deposits	52.0	-.69350
	Cash and treasuries/demand deposits		+.69350
Revenue Enhancement	Loan income/gross loans	44.8	.59532
	Securities income/securities		.45952
	Municipals income/municipals		.42332
Credit Quality Control	Loan loss provision/earning assets	92.7	+.51935
	Gross chargeoffs/loans		-.51935
Leverage and Loss Coverage	Equity/assets	47.2	+.56198
	Loan loss coverage ratio		-.24003
	Reserve/loans		+.57653
Growth	Asset growth	71.5	+.44147
	Deposit growth		+.44246
	Equity growth		+.27506

successful discrimination in year three is contrary to previous results and may be due in part to the reduced variance of the factor scores. The discriminant analysis on the full data set, and the chow test, indicate that the groups are the same in year 3. The classification success of the impure groups is 72.1% in year six in a classification by the Lachenbruch method.

The results of the discriminant analysis on the factor scores for the sixth year analysis on impure groups are presented on Table #25. These results are chosen for full presentation for three reasons: first, they represent the major focus of interest for this study; second, in terms of level of significance (significant at .01 level), they represent the best discriminatory model; third, given the performance of the full and reduced sets of predictor variables, year 6 of the impure groups provides the most information about the turnaround process.

Tests of Alternative Hypotheses

While the twenty three performance variables analyzed through the use of t-tests and discriminant analysis explain much of the variation in performance between the groups of banks, they can't explain all the variation in performance. These performance variables are variables which management can directly control through strategic choice. There are variables which are beyond the control of management, which may contribute to the decline or turnaround process. While it would not be possible to test all the extraneous factors which might impact performance, there are some factors which can be tested. The factors which may impact performance are regional economic conditions, size of the bank, and structure

Table 25

Discriminant Analysis on Factor Scores:
Sixth Year, Impure Groups

Wilk's Lambda: .5454251 Sig.: .0042
Canonical Correlation: .6742217

Classification Functions

	Decline	Turnaround
Profit index	-.10008	-.1980206
Expense control index	.6230481	-.1746864
Employee use index	.410944	1.039799
Asset mgt. index	-.03198	-.00489839
Revenue mgt. index	1.623009	2.885811
Credit Q.C. index	1.208532	.283031
Leverage & loss index	-1.358098	-.6523558
Growth index	-.3961221	.7276484
(constant)	-2.860673	-2.313965

Standardized Discriminant Coefficients		Correlations Between Disc. Function and Variables	
Profit index	.0559	Expense control index	.69495
Expense control index	.29655	Credit Q.C.index	.68215
Employee use index	-.40984	Growth index	-.59620
Asset mgt. index	-.01543	Employee use index	-.56623
Revenue mgt. index	-.40309	Profit index	.56191
Credit Q.C. index	.38939	Leverage & loss index	-.34441
Leverage & loss index	-.27888	Revenue mgt. index	.14281
Growth index	-.37674	Asset mgt. index	.12267

Classification Matrices

Without Bias Correction

		Predicted 1	Predicted 2
Actual	1	16	1
	2	6	20

% correctly classified 83.7

Lachenbruch Method

		Predicted 1	Predicted 2
Actual	1	12	5
	2	7	19

% correctly classified 72.1

1 = decline
2 = turnaround

Box's M 88.96 F: 1.9089 Sig.: .0011

of the bank. The hypothesis is that these extraneous factors will not have a significant effect on the net income of the sample banks for the period of the turnaround. The test of the hypothesis is a dummy regression model, where net income is the dependent variable, and the independent variable is a dummy variable which represents economic regions, or bank structure. The test of the hypothesis for bank size is a regression of asset size against net income. Net income is an imprecise measure, as net income which is large for a small bank is small for a large bank; therefore, tests are also run with profit measures as dependent variables. The profit measures are: net income/average equity, return on earning assets, and net interest/earning assets.

The study adopts the taxonomy of the Compustat tapes to operationalize regional economic conditions. Banks which report to the Compustat system are divided into five regions: eastern, southeastern, midwestern, southwestern, and west coast. While this division is arbitrary, the division does represent much of the character of the regions that each bank performs in. The tests run herein do not address the differences between the regions for that is beyond the scope of this study. They only serve to test for the presence of differences.

The study adopts a single variable to analyze the impact of bank structure. Banks can either be unit banks, wherein the corporation controls one bank; or multi-bank organizations, wherein the corporation owns all or most of many banks, each of which has its own management structure. The categorization of a bank is based on a review of its history as reported in Moody's, and/or a review of its annual reports. This structural alternative is beyond the control of management in the

banking industry because of the impact of state banking laws. Some state banking laws sanction the multi-bank holding arrangement, while others don't. Traditional studies which assess the impact of bank structure on performance compare the performance of unit banks to holding companies. This particular study is different in that the entire sample consists of holding companies. In the context of this study, the unit structured bank is one which has only a single domestic bank within the corporate umbrella. The corporation has other companies (leasing companies, etc.), and in some cases, interests in foreign banks.

The study adopts asset size as a measure of the bank's size. There are other measures available, such as deposit size, earnings, number of employees, or number of branches. Asset size is a popular measure of bank size; it should closely correlate with all measures of bank size. One option for analyzing the effect of asset size on performance is to group banks by size, such as small vs. large banks, or small vs. medium vs. large. This grouping might be accomplished through the use of arbitrary break points in groups at the median or at quartiles. Since the banks in this study are all large in comparison to the majority of commercial banks, this discrete grouping procedure is not advantageous. Therefore, a dummy variable is not used to test this hypothesis.

The results of these tests are reported on Table #26.

Regional difference account for some of the variation in performance on net income and net interest/earning assets. Given recent attention to the problems of decline in the north and east, and the growth of the sun belt, the finding that there is some difference in performance presents no surprise. The rather weak explanation that regional differences provide

Table 26
Results of
Tests of Alternate Hypotheses

A) Regional Conditions

Dependent Variable	R^2	Sig.	Sig. Betas
Net income/average equity	.02995	.044	East, southeast
Return on earning assets	.01434	.325	—
Net interest/earning assets	.15533	.000	Southeast, midwest, southwest
Net income	.19299	.000	East, southeast, midwest, southwest

B) Structure

Dependent Variable	R^2	Sig.	Sig. Betas
Net income/average equity	.00230	.388	—
Return on earning assets	.02995	.002	Structure
Net interest/earning assets	.0032	.746	—
Net income	.00582	.169	—

C) Size

Dependent Variable	R^2	Sig.	Sig. Betas
Net income/average equity	.00027	.769	—
Return on earning assets	.00927	.083	—
Net interest/earning assets	.13719	.000	Asset size
Net income	.92142	.000	Asset size

for performance confirms the ability of management to achieve turnaround even in regions that are not as conducive as others.

Several caveats are necessary in presenting the results of this test. First, the nature of the test compares each region to a base region, which in this case is the west. Where the test finds differences, it is only differences by pairwise comparison to the west region. Certainly, further tests could be made, but they are beyond the scope of this study. Second, the differences do not suggest that the process of turnaround and decline matches regional borders. There are decline and turnaround banks in each region. In general, both the geographic distribution of declines and the results of this test confirm that the north and east presented tougher problems for bankers than the south and west. But there were turnarounds in the tough regions, and there were declines in the growth regions. The following table presents the number of decline banks and turnaround banks by region:

	Decline	Turnaround
East	10	8
Southeast	3	4
Midwest	3	10
Southwest	1	5
West	3	4

This test also provides no means for assessing the exact nature of the differences within the regions; surely, the differences could be internal to the banks, as well as in external events.

The test of the impact of structure show that on only one measure dues structure have any impact on the performance variables, and for that

measure the impact is minimal. For some reason, return on earning assets is related to structure, but the relationship explains only a small portion (2.9%) of the variance.

The test of the influence of asset size shows that the asset size impacts the net interest/earning assets profitability measure, and net income. The explanation for the influence on the former variable is elusive. The explanation for the impact of asset size on net income is readily apparent; as the size of a firm increases, its net income should also increase. Since this increase in net income does not always lead to an increase in profitability, the impact of size is not a central issue in this study. Indeed, the lack of relationship between size and the first two measures of profitability confirm that size is not a major factor in the turnaround process.

The results of these tests lead to a cautious acceptance of the hypothesis. The extraneous factors tested do not explain the turnaround process. They may impact the turnaround process in some minor ways, but they are not the major explanatory factor in the process.

C H A P T E R V

DISCUSSION OF QUANTITATIVE RESULTS

This chapter presents an in-depth discussion of the findings presented in the previous chapter. The discussion starts with preliminary comments about the sample, and then proceeds to consider the key findings of the statistical analysis. The purpose of this chapter is to present a picture of the decline and turnaround process, as described through statistical analysis. The next chapter will present the results of a review of literature on each of the sample banks, in an attempt to compare qualitative and quantitative findings. The qualitative analysis includes the reports of management at the time of the turnaround; these reports should prove valuable aids to the research.

This chapter includes four sections: first, a discussion of the sample; second, a discussion of the results of analysis on phase 1; third, a discussion of the results of the analysis on phase 2; finally, a summary.

The Sample

The sample is limited to large banks. This only presents a problem if the results of the study are generalized to small banks. The findings of this study can only be used accurately to assess the turnaround process in large banks.

The sample is well distributed geographically. While there is a large concentration of eastern banks, this concentration may not be

unusual in that there are more eastern banks represented on the Compustat tapes than any other region. There are both decline banks and turnaround banks in every geographic region.

The time factor of the decline and turnaround process is interesting. All but two of the banks in the sample entered their decline after 1969. The sparsity of declines in the earlier years of the study indicate that the banking industry or the economy may have changed in the late sixties in some way. This has been suggested by many authorities (e.g., Baker, 1978). After a period of uninterrupted economic growth accompanied by relatively stable interest rates, a new period of slower growth interrupted by recession and accompanied by large variations in the interest rate changed the pattern of the banking industry. These changes, generic in part to the banking industry, were accompanied by the overall growth in social demands that affected banks as well as other industries. In theoretical terms, the environment might have changed from a stable to a turbulent one (Emery and Trist, 1965). While it is beyond the scope of this study to analyze the differences over time, these differences do suggest that the results of this study may be limited to times of turbulence. The fact that the turbulence did not affect all banks in the same manner supports the contention that there is something to learn from those banks that did turnaround.

The results of the regression in terms of the R^2 suggest that the variables chosen for this study do capture a substantial proportion of the variance in net income performance. The R^2 are consistently high, with the best performance in the impure groups.

Phase 1

Rate of decline. The hypothesis that there would be a significant difference in rate of decline between the two groups was not supported. The difference was not significant at a meaningful level of statistical significance. However, there is an interesting phenomena to observe here. The study defined decline as a relative decline in net income. Performance for each bank is compared to industry performance, and thus defined as decline or growth. In the sample groups, the banks which turnaround have absolute rates of decline; -36.8% for the pure groups, and -9.59% for the impure groups, while the banks which don't turnaround have relative rates of decline; that is, their net income increased, but at a rate slower than that of the industry; for pure groups, net income of decline banks increased .73% while in impure groups the increase was .34%. While the difference is not statistically significant, this finding suggests that management does not react to relative performance declines as quickly as it does to absolute declines. Slow growth, even if it is slower than industry average, is still growth. Slow growth is accepted and tolerated more often than absolute decline. Absolute decline may be the shock which spurs management into action.

Phase 1 t-tests. Contrary to initial hypotheses, there are some differences in mean performance between the groups. A discussion of the analysis of pure groups is presented, followed by a discussion of the analysis of impure groups.

For pure groups, there are many significant differences in the performance of the independent variables. These differences were tested

through the use of t-tests; performance was defined as change in the independent variables over time.

The profitability measure of net interest/earning assets improves for turnaround banks on phase 1, while it declines for the decline group. However, while net interest performance is improving, the non-interest expenses of turnaround groups are climbing more quickly. Operating expense/earning assets and overhead/earning assets both increase more dramatically for the turnaround groups than for the decline groups. Interest expense as measured by interest on deposits/time and savings is increasing for both groups, but at a slower rate in the turnaround group. The turnaround groups have much slower increase in employee utilization, as measured by assets/employees. In the area of revenue enhancement, the turnaround groups are outperforming the decline groups. Loan income/ gross loans is declining for the decline group, and increasing for the turnaround group. Municipal income follows the same pattern. While securities income is growing for both groups, it is growing more quickly for the turnaround group. The turnaround groups are apparently suffering more loan losses, as the loans loss provision/earning assets ratio increases at a greater rate for the turnaround groups. The equity/assets ratio declines for both groups, but it declines more dramatically for the non-turnaround group (this group is increasing leverage at a faster rate). Both assets and deposits grow at a slower rate for the turnaround groups.

The pure turnaround groups during phase 1 is improving its revenue performance, but non-interest costs are growing at a rate which counteracts the improved revenue performance. In addition, loan losses are contributing to the decline in performance. Decline groups are increasing

assets and deposits faster than turnaround groups, but this increase does not result in a better record of performance in revenue enhancement. However, costs are not increasing as dramatically for the decline group as they are for the turnaround group.

For the impure groups, a similar performance picture emerges, although the number of significant differences between the groups declines. The turnaround group's expenses for overhead are increasing more quickly during phase 1, while their expenses for deposits are increasing less quickly. There is a slower growth in assets/employee for the turnaround groups, there is a greater increase in municipal income, and there is slower deposit growth.

While both groups have declined during phase 1, there are some differences in performance even at this early stage of the turnaround process. Given the fact that these differences are unexpected, and complex, we can only suggest what they might be based on the previous analysis. Banks which will turnaround can attribute their decline to cost control problems. They might also contribute their decline to credit quality control problems. They generate revenue at a better rate than the decline banks, while the decline banks are increasing the level of assets, and deposits, but not improving their margins on this increased volume. A clearer picture of these unexpected performance differences should emerge after a consideration of the phase 2 performance in the next section.

Even though there are differences in some performance trends during phase 1, the turnaround and decline groups are not different at this point. The discriminant analysis shows no significant differences between

the groups during year 1 and year 3, when the twenty three variables of performance are analyzed.

Phase 2

During phase 2, there are several differences between the decline and turnaround groups, as hypothesized. The performance differences that appeared in the groups during phase 1 begin to reverse themselves. This section will compare the performance differences between the decline and the turnaround groups during phase 2, while also comparing some of the results of phase 2 to phase 1. A discussion of the t-tests on the pure groups precedes a discussion of the t-tests on the impure groups. Then, a discussion of the discriminant analysis for the impure groups is presented.

The t-tests on performance measures for pure groups show several differences. Return on earning assets is increasing at a faster rate for the decline group than for the turnaround group. This is a surprising situation, unless we consider the performance in phase 1, when the turnaround groups had better performance on a different profit measure. Apparently, the turnaround groups improve their profit performance early in the decline; the decline groups react later. While they are improving at a better rate than the turnaround group, this performance is too late to counteract the decline.

The expense control performance sheds further light on this recovery process. Operating expense/earning assets and overhead/earning assets are increasing at a greater rate for the decline groups. This is a complete reversal of phase 1 performance. As with the turnaround groups in phase 1, the increased expenses for the decline groups in phase

2 counteract any gains made in revenue performance. This comparison is confirmed by observing performance on the loan income/gross loans ratio. The decline group is improving performance at a better rate than the turnaround group. During phase 1, the decline group was deteriorating on this measure. They have now reversed this decline, but do not see the returns from this reversal during phase 2.

The employee utilization measure, assets/employees, displays a similar reversal. During phase 2, the turnaround group is increasing performance on this measure at a greater rate than the non-turnaround group. When considered in conjunction with the behavior of operating expense, this suggests that the turnaround process requires some investment before the turnaround begins. Initially, this investment contributes to further decline, but bears returns in the form of a turnaround later on. Whereas during phase 1, asset growth had been slower for the turnaround group, now the rate of asset growth is statistically equivalent for both groups. Perhaps the change can be attributed to the utilization of employees.

The final measure which reflects differences on t-tests between the pure groups is the rate of growth in the loan loss provisions. This measure is increasing for the decline group, and decreasing for the turnaround group. This is, again, a reversal of trends from phase 1. The turnaround group is improving its quality control, while the decline group is just beginning to experience quality control problems.

In the analysis of performance trends for phase 2 for the impure groups, a similar pattern appears, although not quite as dramatically as in the pure group case. The decline groups suffer a higher level of growth in operating expense/earnings assets; this is a reversal of the

phase 1 trend (however, the difference in phase 1 appeared in overhead rather than operating expenses). Deposit growth over this three year period is higher for the turnaround group than for the decline group; again, this is a reversal of the pattern. Asset growth is higher for the turnaround group than for the decline group, while cash & treasuries/ demand deposit accounts grow at a faster rate for the decline group. The higher rate of growth in cash and treasuries might explain the lower net interest margin of the decline group as these are not highly profitable uses of money.

The discriminant analysis of the sixth year impure group provides a concise comparison of the differences between the groups. This discrimination was successful when a reduced set of ten predictor variables was used. The variables which provided the most correlation were: net income/employees, overhead/earning assets, operating expense/earning assets, asset growth, loan loss provision/earning assets, gross chargeoffs/loans. These variables ranged in correlation from .50695 to .61015 (absolute values). The structure correlation matrix for the full set of ten variables can be found on Table #23.

For each of these important variables, the group means provide insight into the differences between the groups. Turnaround banks have higher net income per employee than decline banks; they have lower overhead and operating expenses. The turnaround banks have higher asset growth during the sixth year than decline banks; their loan loss provisions are lower, as are their gross chargeoffs. Less important (but still distinctive) differences are found in the equity growth, net income/average equity, municipal income/municipals, and return on earning

assets variables. The turnaround group of banks have better performance on three of these variables. Somewhat surprisingly, the turnaround banks have a slightly lower average return on earning assets. This finding of lower return highlights the importance of expense control and loan quality variables.

Summary

In order to summarize the results of the findings to this point, it is useful to present an analysis of the factor scores for the sixth year of the turnaround. The factor scores lend simplicity to this process because they present the discriminating power of each group of variables, rather than each individual variable. Table #25 lists the results which this discussion relies on.

The most important discriminating groups of variables as judged by their correlation with the discriminant function are: expense control, credit quality control, growth, employee utilization measures, and profit measures. These results, combined with previous analysis, indicate the importance that expense control measures and quality control of the loan portfolio lend to the turnaround process.

One way of comparing these groups is by a consideration of their mean scores on the discriminant function. These scores are called group centroids. The group centroid for the decline group is 1.10244, while the group centroid for the turnaround group is -.72083. By comparing the signs of the group centroids with the signs of the standardized coefficients, we can build a profile of the difference between case in each group. The signs of the standardized variables are as follows.

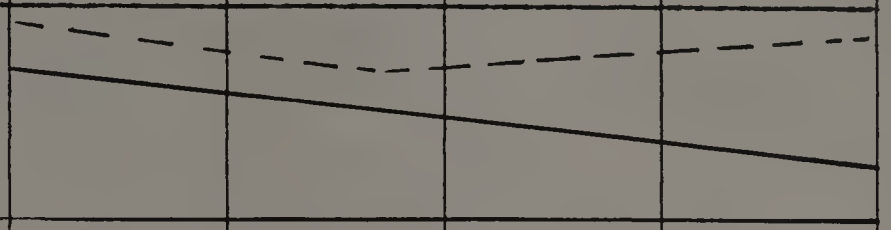
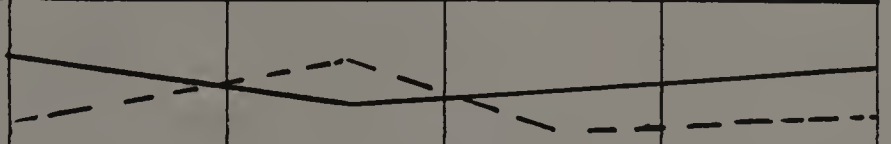
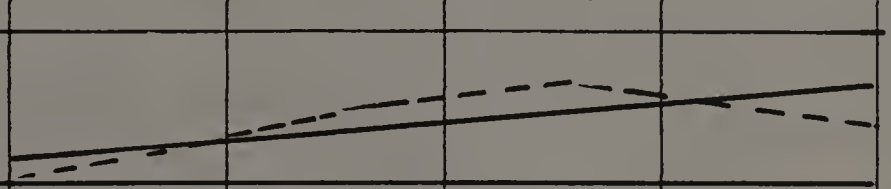
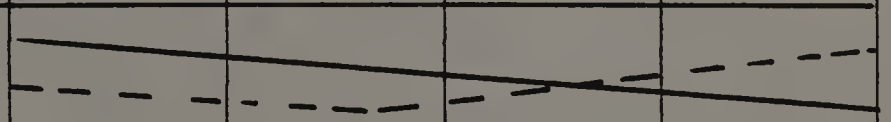
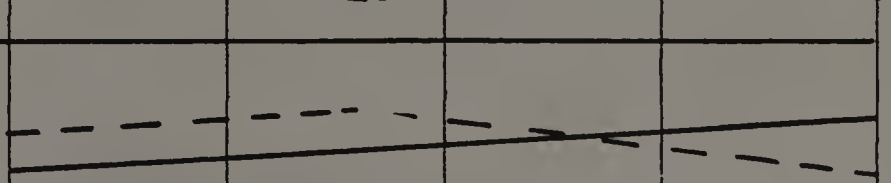
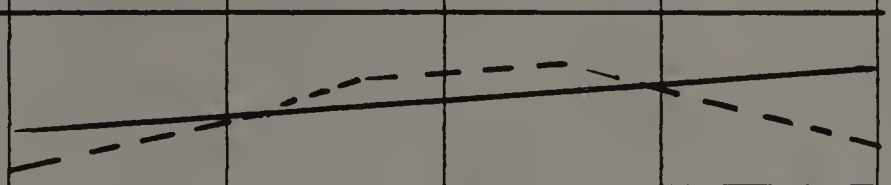
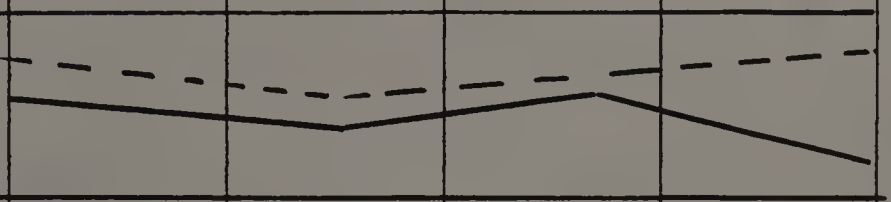
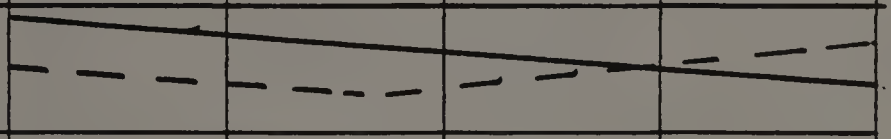
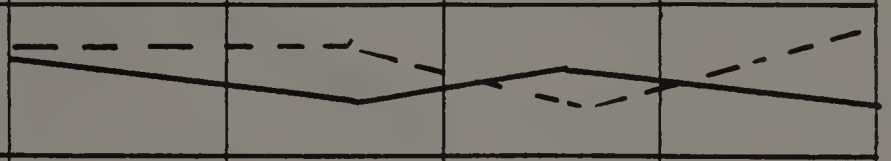
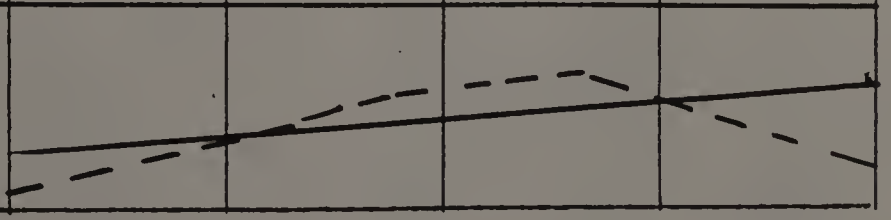
Profit index	+
Expense control index	+
Employee utilization	-
Asset management index	-
Revenue management index	-
Credit q.c. index	+
Leverage and loss index	+
Growth index	+

Banks which score high on the employee utilization measures, the asset management measures, and the revenue management measures while scoring low on the profit index, which reflects the previous finding about the lower return on earning assets in turnaround groups, the expense control index, the credit quality control index, which implies good quality control, the leverage and loss index, and the growth index are turnaround banks. Banks which score low on the employee utilization asset management and revenue management index while scoring high on the remaining indices are decline banks. If we restrict attention to the most important predictors, we can assert that the difference between the groups lies in the fact that turnaround banks have low overhead and operating expense, and have low levels of loan losses, while the decline banks do not. Since these differences are not evident during phase 1, the turnaround banks successfully implemented cost control and credit quality control strategies.

The following chart summarizes the process of the turnaround. This chart combines the findings of the t-tests and the discriminant analysis. The chart lists the 10 variables which were found to discriminate the

Table 27

Pattern of Means for Key Discriminators
of Turnaround and Decline

Variable	Years 1	3	4	6
v8 Net income/employees				
v5 Overhead/earning assets[1]				
v4 Operating expense/ earning assets[1]				
v21 Asset growth[1]				
v16 Loan loss provision/ earning assets[1]				
v17 Gross chargeoffs/loans				
v23 Equity growth				
v1 Net income average equity				
v15 Municipal income/ muncipals[1]				
v2 Return on earning assets				

——— Decline Banks
- - - Turnaround Banks

1 = Significant difference in phase 1 or 2.

impure groups during the sixth year, and traces the mean performance of the impure groups throughout the six years of study. The statistically significant performance trends for phase 1 and phase 2 are noted. The chart captures the process of turnaround graphically: the fact that many of the trend changes for the turnaround group appear in years three and four of the decline suggest that the turnaround strategy requires early identification, and that it takes time to enact the turnaround.

The foregoing discussion of the statistical analysis reflects the complexity of the turnaround process. The next chapter presents the results of a review of the literature to ascertain management's perception of the turnaround process. Before this review, a restatement of the results of this chapter will prove useful. First, the decline and turnaround banks are statistically equal during the first phase. Certain performance trends are different for the turnaround banks in the first phase, however. The turnaround banks recognize loan losses early in the stage of decline. They also recognize income improvements early in the decline, but they experience a growth in expenses that outweighs their income gains. During the turnaround, this experience is reversed. The turnaround banks slow their growth in income generation, but their expenses decline. The banks that continue to decline experience loan losses and increases in expense. The key components in the turnaround effort are the control of expenses and the control of loan quality.

CHAPTER VI

QUALITATIVE ANALYSIS

This chapter presents an in-depth review of the history of the sample banks during the six year period of the study. The major source of the information developed in this chapter is the material supplied by the banks. Each bank in the sample was asked to supply copies of their annual report for the period of the decline and turnaround. In addition, the banks were requested to supply any other information: staff reports, published articles, etc., that might be available in their libraries. The response rate was as follows:

Table 28

Response Rate of Sample Banks to Inquiry

	Total	Response	Percent
Pure turnaround	8	5	75%
Pure decline	7	6	71.4%
Inconsistent turnaround	23	4	17.3%
Inconsistent decline	13	8	61.5%

The response rate was much higher for the pure groupings than for the impure groupings. Since perfect response was not expected, this information was supplemented by a review of the banking literature to analyze published reports about the experience of the banks.

The information presented herein must be accepted with caution. It can be argued that annual reports and published reports do not reflect the true conditions of the performance of each bank. In some cases,

the annual report may serve more as public relations than public information. Since the report is subject to reviews by such client audiences as auditors, the board of directors, stockholders, and public agencies, there is some control over the content of the document. The matched analysis of the subjective discussion of the firm's performance with the objective performance data of this study improves the potential for developing a true picture of the firm's position.

The Strategies Developed for Turnaround

Based on a review of the annual reports, a wide range of strategies appears pertinent to the effort of reversing declines. These strategies appear on Table #29; this section defines each of the strategies. The following section compares the differences in strategies between the decline and turnaround group. The strategies are presented in order of their frequency of appearance.

The most frequently used strategies are the development of a new structure and the use of cost controls. The new structure can take any one of several forms. In some cases, the new structure adopted is the holding company structure. In other cases, the new structure is the change from a multi bank holding company to a single bank holding company. In many cases, the change in structure involves a redefined reporting relationship within the corporate structure. Certain operations such as marketing and/or loan policy are centralized through the mechanism of an office in corporate headquarters which reports directly to the chief executive officer. In many cases, the new structure is designed to meet the market environment; the structure is organized on the basis of geography or on

Table 29

Frequency Count of Strategies
Enacted During Phase 1 and Phase 2
as Reported by Turnaround and Decline Banks

	Turnaround Banks	Decline Banks	Total
New structure	7	9	16
Cost controls	6	10	16
New business	8	7	15
Reduction in problem loans	5	8	13
Marketing	7	5	12
Reduction in personnel	5	7	12
Acquisition	6	5	11
Targets	4	7	11
Plans	4	7	11
Control of loan risks	4	7	11
Credit rationing/decrease sensitivity	4	7	11
New branches/replace branches	5	5	10
New consumer services	6	4	10
New markets	5	4	9
International expansion	5	4	9
Restricting growth	1	5	6
New technology in operations	3	3	6
Change market definition	1	5	6
New head man	2	3	5
New management team	2	3	5
Increase demand deposits relative to time & savings	2	2	4
Increase staffing	4		4
Increased service charges	2	2	4
Merge branches		4	4
Liquidate subsidiaries		4	4
Increased centralization		4	4
Increased training	3		3
Work simplification/management	1	2	3
Sell or close branches	1	2	3
Increase correspondent activity	1	1	2
Reduce diversification	1	1	2
Change staff compensation		1	1
Increase deposit base		1	1
Diversity loan portfolio		1	1
Reduction in loan volume		1	1
Manage portfolio and loan demand	1		1

the basis of customer grouping. Quite often, the structural adaption is of mixed breed; customer or geography based structures are combined with centralized key departments. A final type of structural arrangement is the profit center concept; the company is organized around several business components that can be measured on profit performance. This profit center concept does not necessarily match the makeup of businesses within the corporation; there can be more than one profit center within a single business.

The review of annual reports identifies cost control as a key component of the turnaround effort, but offers little information as to the form these cost controls take. In general, there are two important classes of cost controls within the commercial bank industry: interest costs and non-interest costs. Of these, interest costs for the higher component. Many banks regard interest costs as given; that is, interest costs are determined by the market and cannot be influenced by the bank. In these cases, the cost control effort is concentrated on the control of non-interest expenses. The most important non-interest expenses are occupancy expenses and personnel expenses. In some cases, the banks do recognize that they can exercise some control over interest expense. Several strategies which can be classified as cost control strategies appear in this set of strategies; they shall be discussed in order.

The development of new business is a frequently mentioned strategy. As with all businesses, new business can take several forms. New business can be old products sold to new customers, new business can be old products sold to old customers, it can be new products sold to new customers, and it can be new products sold to old customers (Gutmann, 1964).

The generation of new bank business follows all patterns.

The reduction in problem loan strategy appears frequently in the sample. This strategy usually involves the development of a new procedure for reviewing the status of loans. For example, the non-payment period that is used to identify problem loans is reduced, so that potential problems are recognized earlier. These potential problems are then reviewed by a committee to ascertain the potential for future payment. In most cases, a team of specialists is developed who spend full time on the problem loans. They offer advice to the customers that might result in improved performance for the customer, i.e., give the customer the ability to pay the loan; they take steps to collect through legal means where all other channels fail. In some cases, the reduction in problem loan strategy is developed around key industries or geographical areas. A key industry can be depressed. The common case is the real estate industry. A key region might be depressed for economic or other reasons. A team of specialists is then formed to handle these specific loan problems. In most cases, this strategy is extended to new loans, which involves some changes in the policy for loan approvals; limits are changed for loan officers, audit procedures might be tightened, or statistical models for classifying loans might be developed.

The reduction in personnel strategy is one of the cost control strategies. Frequently, the reduction in personnel takes place through attrition. At times, more active measures are necessary. In addition to reductions in personnel, many of the sample banks act to limit the costs of personnel by holding wage increases to minimum levels. One bank froze executive salaries.

The acquisition strategy is one method for generating new business. It is also a method for reducing a bank's fluctuation in performance in some cases. The acquisition strategy is limited by regulatory agencies. Before 1970, the major activity in acquisitions for commercial banks was in the area of bank purchases. While some banks were prohibited from the purchase of other banks by state regulation, many in other states could and did. After 1970, the banks' acquisition activity expanded due to passage of federal regulations which permitted commercial banks to engage in "bank related business" acquisitions. After 1970, there was a large movement by sample banks into such businesses as mortgages, leasing, and investment advisory services.

The idea that the banks should have targets and plans appears frequently in the sample. Common targets include market share, cost targets, loan volume, loss volume, earning per share, and earnings. Often, the targets reflect the major directions of the bank's effort to change performance. Plans usually are limited to specific areas, such as growth plans or personnel plans. In some cases, banks list plans for activities of social concern. A few banks stress the importance of strategic planning; in some cases, new departments or new procedures are developed for strategic planning. While not every report includes time spans in their planning discussion, those that do direct their plans beyond a single year.

The control of loan risks and credit rationing to decrease sensitivity are two of the strategies which are developed to avoid problems in the loan portfolio. The control of risks has been discussed previously; controls include careful review of both current loans and

applications for loans. In some cases, particularly for those banks which invest in real estate investment trusts, the control of risk include a reduction of the amount invested in a troubled industry. Credit rationing to decrease sensitivity is a strategy designed to protect the banks from variations in the market interest rate. During the 70's, the fluctuation of the interest rate increased dramatically in comparison to earlier decades. Several times, the cost of short term money which many banks use to finance long term loans exceeded the return of the portfolio. Some banks choose to decrease their exposure to this fluctuation by matching their portfolios of assets and liabilities. Variable rate liabilities are matched with variable rate assets, and fixed rate liabilities are matched with fixed rate assets. The method used to accomplish this match is credit rationing; loan applications are reviewed, and priced with the match in mind. Long term fixed rate loan business is not accepted when it increases the bank's sensitivity to the change in the cost of funds.

The addition of new branches, or replacing branches, the addition of new consumer services, the addition of new markets are all strategies used to increase business. New branches are used to develop a further consumer base for both deposits and loans. The experience of these sample banks show that the return to new branches may not appear for several years. New consumer services include automated teller machines, and overdraft checking. One key to the success of both new branches and new consumer services is a successful marketing program. The marketing program often involves the use of branch personnel to cross sell services, in an attempt to make a customer of the bank a full service customer.

The new market strategy is a multi-faceted one; many of the strategies which appear in this list are actually strategies to enter new markets.

Restricting growth is a strategy that involves the selective pruning of the organization to improve its profitability and/or the discontinuation of acquisitions. Most often, the restricting growth strategy follows a period of aggressive growth strategy. As such, this strategy is one that is used after other strategies have failed. Most often, this strategy follows an attempt to improve returns from previous growth by cost cutting, etc. In one case, this strategy was the initial strategy adopted by an organization to avoid decline. While the bank had three years of decline, it attributed this decline to short term economic trends. This judgment proved accurate, as this particular bank did enact a turnaround.

New technology in operations, an option chosen six times, has dramatic impact throughout the bank industry. The growth of computer applications, the advent of electronic funds transfer, and the growth of automated teller machines has affected all banks. The banks in the sample, however, adopted new technologies in operations as a strategy to improve cost control. For the most part, the technology chosen applied to the paper processing end of the business. Systems were adopted which could reduce the banks' dependence on clerical help. In several cases, this did not mean that the bank was relying on a new generation of machines, but rather that the bank was adopting a present generation of machines to better use.

The strategy of changing market definition is tied to the banks choice of growth or restricting growth. International growth requires

an international market orientation, while restricting growth requires a regional identification. The market definitions communicate the bank's strategy to relevant markets and to bank personnel; as such, this option is a subset of the strategic posture of a bank.

The appointment of a new head man and a new management team often occurred simultaneously. After a short period of studying the organization, the new head man would recruit a new management team. The appointment of a new chief executive officer (see note) often followed a period of major deterioration in the organizations performance. In one case, the major deterioration included several instances of fraud. In another case, the deterioration included public identification of the bank's declining position. In general, the strategies enacted by these new executives did not differ appreciably from the strategies of veteran managers attempting to turnaround performance; however, the argument might be advanced that the newer executives did encounter some difficulties that veteran executives would not, such as employee resistance.

One policy used to control non-interest costs is the attempt to increase the level of demand deposits. This strategy usually included a marketing component and a new services component. The banks offered increased services as a method of "payment" for the use of deposit money. This policy was in part a reaction to the increased sophistication on the part of the consumer, who engaged in significant amounts of disintermediation during the period of this study.

Note: In the sample, there were more than five new ceo's appointed; however, many of the appointments were promotions of the second in command. These are not categorized as new head men, in that they had participated in the operations of the banks for years before the appointment.

Some banks increased staffing to take advantage of growth opportunities. The fact that this strategy appears only in the turnaround sample may be significant, and shall be discussed elsewhere.

Increased service charges obviously is an attempt to increase revenue. Often, the increase in service charges is accompanied by a work study and cost accounting program to identify the costs of services more clearly.

Merging branches and liquidating subsidiaries are part of the restricting growth strategy, as are selling or closing branches, reducing diversification and restricting loan volume. Increased centralization often accompanies the attempt to change structure or to control costs. Increased training and work simplification and management are matched with cost control efforts. Increased correspondent activity is a method for increasing the bank's market or business.

The remaining strategies each were adopted in only one bank. These strategies include changing staff compensation, increasing the deposit base, diversifying the loan portfolio, and managing the portfolio and loan demand. The purpose and definition of these strategies is self evident. The only comment that is required is to note that the management of the loan portfolio and loan demand is a philosophy of portfolio management that is different than the philosophy adopted when a bank chooses to reduce its credit sensitivity. Whereas the credit sensitivity strategy seeks to reduce the bank's exposure to fluctuations in the interest rate, the use of the portfolio management strategy seeks to give the bank full advantage of this fluctuation. The bank attempts to predict the trends of short term interest rates, and lend accordingly. If there is a prediction that short term rates will fall, the bank aggressively seeks

long term business at the current high rate. If the prediction is that short term rates will rise, the bank declines current long term business at the current low rate and invests the money in short term securities, which will then be turned over at the higher rate. Of course, the success of this strategy is critically dependent upon the success of the predictions of interest trends.

Summary of strategic choices. The classification of strategies by frequency does not increase our understanding of the turnaround process for two reasons. First, the strategies are not unique; many are grouped together to form a single strategy, with several components, for a particular bank. Second, there is no distinction between turnaround and decline through the frequency count. This section will attempt to group the strategies into categories that often appear together; the next section will discuss the difference between the turnaround and decline strategy.

Based on the quantitative analysis of previous chapters, we can state that two classes of strategies are important in the turnaround process: cost controls, and reduction in problem loans. The quantitative analysis of this chapter reveals that other classes of strategies are important: growth, new business or restricting growth strategies. A fifth classification is suggested by its frequency of appearance; that is the adoption of new structure.

The cost control strategies include reduction in personnel, action to increase demand deposits relative to time and savings deposits, merging branches, liquidating subsidiaries, increased training, work simplification, closing branches, and adopting new technology to operations.

The strategies used to reduce the level of problem loans include controlling loan risks both by review of present bookings and improved procedures for new bookings, credit rationing and sensitivity management, diversifying the loan portfolio, and managing loan portfolio and demand for loans.

The new business growth strategies include acquisitions, new branches, new consumer services, new markets, international expansion, increased staffing, and increased correspondent activity.

The strategic options for restricting growth include merging branches, closing or selling branches, liquidating subsidiaries, reducing diversification of the corporation, and reducing loan volume.

The adoption of a new structure often accompanies the attempt at turnaround. This can mean increased centralization. At times, the new structure is designed by a new chief executive officer and/or a new management team. The alternative methods used to restructure the organization are discussed in the previous section.

This grouping of strategies leaves a few of the original set of strategies unclassified. The use of targets and plans might be classified in all the groupings; thus, these options are not classified. The change of market definition might be classified with growth, restricting growth, and the reduction of problem loans. The use of increased service charges and actions to increase the deposit base are not readily classifiable. Thus, they remain unclassified.

This scheme of classification does not clarify the turnaround process further. A distinction needs to be made between those strategies that lead to a turnaround and those that lead to a decline. There are two

methods for making this distinction; first, through the use of the quantitative results of the previous chapter, and second, through the analysis of the pattern of the strategies identified in this chapter. We turn to the second task first.

The Difference Between the Decline Group and the Turnaround Group in Strategy Choice

Restricting the comparison of choice differences to those instances where a strategy was chosen by more than one bank, there are only three differences in the set of strategic choices. Turnaround banks choose training as part of their turnaround process in three cases, while none of the decline banks choose training. While this difference might be due to chance, the pattern suggests that turnaround may require an investment in training to change the performance of bank employees. Decline banks choose the option of restricting growth more often than the turnaround banks. In five of six cases, in which restricted growth is observed as part of the strategy, the choice is not successful and does not lead to turnaround in the six year period of the study. Only decline banks choose to merge branches or liquidate subsidiaries. There are several possible explanations for this difference between the groups. First, the difference could be due to the nature of the decline. The decline for the turnaround groups may not have been precipitated by unprofitable growth, and therefore the turnaround groups need not restrict decline. Second, this choice of turnaround strategy may be an option of last choice. It may be chosen after a bank has endured a period of decline greater than three years. The bank may have attempted other methods of

turnaround before the decision to restrict growth; having failed at those; it adopts the restriction strategy. Third, this difference could indicate that the banks chose the wrong strategy initially; that is, early in the decline they chose to restrict growth; this choice led to further decline. A review of the history of the banks which chose the option of restricting growth reveals that the strategy to restrict growth is a strategy of last choice. For the five decline banks which enacted this strategy, three enacted it in phase 2. The remaining two banks enacted it during the last year of phase 1.

The third difference between the groups is that the decline group chooses the option of increased centralization in four cases, while this option is never mentioned in the sample of turnaround banks. This difference suggests that either decentralized operations lead to a longer term decline than centralized operations, or that the option of increasing centralization requires further time to succeed, or that the option is not a successful one. Unfortunately, the analysis offers little information which can be used to accurately access the reasons for this difference. It is possible that the difference is due to chance, especially since many of the strategies used by both groups increase centralization de facto: loan limits, loan review groups, and new structure.

The following section compares these differences to the patterns and differences discovered during the quantitative analysis.

Successful and Non-Successful Strategies

The relative lack of differences in the set of strategic choices between groups suggests that the process of turnaround is not determined in

the act of choosing a particular strategy, but rather in the act of implementing a particular strategy. In general, two different banks can choose the same strategy to turnaround performance. That strategy might be successful for one bank, and not successful for the other bank. In other words, the success of the turnaround is critically dependent on management's ability to implement the strategic choice.

There are some indications, however, that other factors impact the turnaround process. These factors are the timing of the strategy, and the nature of the decline. Recall that there are performance differences in the groups during phase 1 which were unanticipated at the design of the study. These differences could be due in part to timing. The turnaround banks experience an increase in operating expenses early in the decline; their loan losses increase during phase 1; their assets and deposits grow more slowly; their loan income does not deteriorate. These banks may react more quickly to problem loans than the decline banks, and increase investment in the attempt to reduce the level of problem loans. Their sensitivity to problem loans influence them to choose growth opportunities carefully, and to avoid some growth opportunities. Their initial reaction to loan losses and their initial increased investment pay returns during phase 2, when their assets increase at a greater rate than the decline groups.

The difference could also be due to initial strategic differences. The decline group during phase 1 is increasing assets and deposits, but it is not increasing its loan income/gross loans ratio. The decline group might consider that their lack of loan income is due to the start up costs of the increased growth. They do not react until later than

the turnaround group. Upon the decision to react, the initial choice is to enact the same types of strategies that the turnaround group enacted increased operating expense to pay for tighter control of loans and the increased effort to reduce problem loans. If this initial attempt does not pay off, the subsequent strategy is a decision to reduce growth.

In all likelihood, there are more than one type of decline; therefore, there is more than one set of responses to the decline. There may be a decline that is due solely to bad loan experience. This decline is reversed by controlled growth and improved loan control procedures. A second type of decline is the decline that is caused by investment in growth in the loan portfolio and/or in acquisitions that does not bring returns that justify the cost. The turnaround strategy in this case requires an attempt to turnaround the performance of the bad loans/acquisitions. If such an attempt fails, the turnaround strategy then requires that the bank restrict growth in some manner. Unfortunately, this turnaround strategy requires more time than the six year period analyzed by this study.

Summary

It is evident that the turnaround process is a complex one. Ignoring for the moment the fact that there may be different causes of the decline, we can assert that any turnaround attempt requires attention on several components of the business simultaneously. An initial increase in expenses may be required; for the turnaround to occur, returns must accrue to these expenses within a short period of time. The turnaround requires careful analysis of growth opportunities; the growth opportunities

must add to profit in the short term. A key area of concern is the loan portfolio; its quality (a high quality portfolio has minimal risk exposure) must be assured. The turnaround process requires that a bank not only reverse its poor performance in expense control, but that it also improve performance in such areas as asset growth and equity growth. Action is required on all fronts of the business. Any initial increases in expenses incurred to pay for the turnaround must be reduced shortly. The turnaround may be accompanied by a reduction in personnel; this reduction in personnel cannot be successful unless there is a corresponding increase in productivity among remaining bank employees.

If there is more than one type of decline, the turnaround process is even more complex. The results of this analysis suggest that there are at least two types of decline; a decline due to bad loan experience, and a decline due to unsuccessful growth activity. A decline might also be caused by fraud. A decline that can be traced to unsuccessful growth activity will take longer to reverse.

The major difference between the turnaround bank and the decline bank is not due to the choices made to enact the decline, but rather to the bank's ability to successfully implement a particular set of choices. Early response to the problem may be a key factor.

At this point, the time span of the study requires comment. The six year period of analysis is arbitrary. At least one bank which declined for the period of this study turned around; at least one bank which had an impure turnaround almost failed in late 1979. These facts suggest that neither decline or turnaround is permanent; continued

success requires attention to the changing conditions of the bank; continued decline can be reversed.

CHAPTER VII

SUMMARY, CONCLUSIONS, AND SUGGESTIONS FOR FUTURE RESEARCH

This chapter presents a summary of the study and its key conclusions; an analysis of the policy implications of the study; a critique of the weaknesses of the study; and finally, some suggestions for future research in the field.

A Restatement of the Study's Objectives and Conclusions

The study attempts to identify the key differences between banks which turnaround performance after a decline, and those which do not turnaound performance. The initial design proposes that there would be specific key differences between the turnaround and decline banks.

The initial sample is drawn from Bank Compustat tapes for the period 1959 through 1978. The annual net income growth of each bank (136 total) is compared to the annual growth in net income for the industry. If a bank's growth in net income for a particular year is less than the industry wide growth in net income, then that year is labeled as a decline year. A bank qualifies for inclusion in the study if there are three consecutive years of decline within the time span 1959 through 1978.

These first three years of decline are called phase 1. For each bank, the following three years, called phase 2, are then observed. During this second phase, the banks either declined or improved performance. Those banks which improved performance in the second phase are labeled

turnaround banks; those banks which continued to decline are labeled decline banks. These groupings are further subdivided into groups labeled as "pure" and "impure." In a case where phase 2 has three consecutive years of growth or decline in comparison with industry performance, then that case is labeled as pure decline or turnaround. In a case where phase 2 exhibits growth in two of three years, the case is labeled impure turnaround. In a case where phase 2 exhibits decline in two of three years, the case is labeled impure decline.

The analysis, which includes quantitative and qualitative components, is performed in two steps. The "pure" groups are analyzed. In these cases, phase 1 is a three year decline, while phase 2 is either a three year decline or three years of growth. Then, the full sample is analyzed. The full sample is formed by combining the pure and impure cases; thus, in the full sample analysis, some of the banks are classified on the basis of their performance in two of three years during phase 2. All of the banks decline for three years during phase 1. The final sample includes 51 banks, categorized as follows:

Pure turnaround	8
Impure turnaround	23
Pure decline	7
Impure decline	13
Total sample	51

The quantitative analysis is performed on twenty-three variables, which are observed over the six year period of phase 1 and phase 2 for all the banks in the sample. These variables are chosen after a review of the bank management literature to discover the variables most often

used to analyze bank performance. The twenty three variables chosen are those developed by Dr. William Ford, a bank manager and a respected analyst of bank performance. The twenty three variables are tested in a regression model to confirm their explanatory power. These variables are then used for the remaining analyses.

The quantitative analyses take place in two main steps. First, performance for each group of banks is computed for each phase. Performance is defined as change over time. The average change in each variable is computed for each bank for phase 1 and 2. Then, the mean performance of each group (pure decline, pure turnaround, full sample decline, full sample turnaround) is calculated, and a t-test for difference between the group mean is performed. Second, a discriminant analysis is run on each group for the first, third, fourth, and six year of the sample period. Thus, there are two discriminant analyses during phase 1, and two discriminant analyses during phase 2.

Two other types of tests are performed on the sample. A t-test is performed to compare the differences in the rate of decline between the groups; this test is only run on phase 1. A dummy regression is run to judge the influence of certain key extraneous variables, that is, variables not among the twenty three specifically analyzed. These key variables are the economic region of the bank, the size of the bank, and the structure of the bank.

The qualitative analysis is a review of literature about the sample banks. Each bank in the sample is requested to provide information for the period phase 1 and phase 2. Those banks that respond to the inquiry submit copies of their annual reports, copies of speeches before financial

analysts, and copies of other reports written about the bank. The qualitative analysis relies heavily on this information. An extensive review of the bank literature for the sample period supplies further information for analysis.

The remainder of this section presents the initial hypotheses, and a brief summary of the results.

Hypothesis #1: The rate of decline in net income for turnaround firms will be greater than the rate of decline in net income for decline firms.

This hypothesis was not supported at the .05 level of significance. The rate of decline for turnaround firms was larger than the rate of decline for the decline firms, but not at a statistically significant level.

Hypothesis #2: The performance of the groups will be the same on the financial and operating ratios for the decline phase (Phase 1)

This hypothesis is not supported. There are some differences in performance between the groups during the first phase, when all groups are declining.

Hypothesis #3: The performance of the groups is different on the financial and operating ratios for phase 2.

This hypothesis is confirmed. The findings stress the importance of the control of loan quality and overhead costs in the turnaround effort.

Hypothesis #4: The groups are not discriminated successfully during phase 1 (discriminant analysis at year one and year three).

This hypothesis is confirmed. There is not successful discrimination during the first phase.

Hypothesis #5: The groups are discriminated successfully when phase 2 is analyzed, that is, year 4 and year 6.

This hypothesis is supported. The results at year six show the importance of several key variables in the turnaround process. These key variables are: net income/employees, overhead/earning assets, operating expense/earning assets, asset growth, and loan loss provision/earning assets. When combined with the previous results, these results show that the turnaround bank has controlled its overhead expenses, has recovered from past loan losses and has begun to increase its asset base following a period of slower growth during phase 1.

Hypothesis #6: Several variables will be more important than the other variables in the discriminant function.

As evidenced by the discussion of the last paragraph, this hypothesis is supported. The initial hypothesis suggests 8 key variables as discriminators; some of the eight are confirmed.

Hypothesis #7: Extraneous variables will have insignificant effects.

With a few minor exceptions, this hypothesis is confirmed.

Since the twenty three variables represent eight types of performance ratios, an attempt is made in the study to build scales for each of these eight types of performance. The scales are built through a factor analysis. These eight scales are then used as input for discriminant analysis, following the format of the original hypotheses. The results are similar to those presented for the full data set. In the sixth year, the

key discrimination is provided by expense and credit quality control, growth measures, and employee utilization measures.

The review of bank reports and other material leads to an interesting discovery. With few minor exceptions, banks which decline describe the same types of strategies as banks which turnaround. Those strategies which are used most frequently are: the adoption of a new structure, the introduction of cost controls, the addition of new business, and reduction in personnel. The fact that the turnaround and decline groups choose the same type of strategies indicates either that the process of implementing strategies is more important than the choice of strategy, or that the strategies chosen lead to the turnaround of a particular type of decline, and those banks which did not turnaround experienced a different type of decline than those that did turnaround.

The Policy Implications of the Study

The study has implications in three general fields; first the field of policy research, second, the field of bank management, and third, the field of bank regulation. This section briefly reviews the implications in each field.

Until relatively recently, the chief identifying characteristic of the policy field has probably been the use of the case study as the primary method for both teaching and research. The case study has served its purpose well, and still remains as an important research tool for the field. Recently, increasing attention has been given to the importance of research that goes beyond the limitations of the case study, and analyzes policy in a cross sectional and time series perspective. This attention has given rise to a debate of the relative merits of quantitative and qualitative research. The debate is certainly not unique

to the policy field (San Miguel, 1977), but its resolution does impact the field of policy.

The debate, in this author's opinion, often misses a crucial distinction. The relative merits of a particular research methodology depend entirely upon the purpose of that methodology. If the purpose of research is to test theory, there can be little doubt that the methodology requires quantification. If the purpose of the research is to describe phenomena, or to build theory, then qualitative research can be useful. In most cases, research is designed for several purposes. In the policy field, in particular, research is often practitioner oriented. In the case of this particular research study, the attempt has been to identify the key variables of concern for bank managers who are facing a particular circumstance, that is, decline, in their organization. The quantitative analysis reveals what variables are important; not how the manager can manipulate them; the qualitative analysis shows how managers changed their organizations under conditions of decline. Neither approach, alone, offers aid to the practitioner; hopefully, the combination of approaches offer that aid. When research design follows purpose, the field of knowledge can and will advance.

As the policy field moves from its reliance on the case study, it moves toward theories of strategic behavior. An important part of this move is the creation of theories and the testing of theories that apply across industries. The experience of many managers, and the wisdom of many researchers, suggests that the management skill can be carried across industries; a successful executive will be successful in any industry. If this is true, then there are similarities between all

organizations, and useful theory about the policy of organizations can only be developed in cross sectional contexts. While it may be true that these similarities exist, to date, the nature of the similarities and perhaps more importantly, the differences, have not been developed. While we can successfully test theories about manufacturing industries, we may not be able to combine these theories with theories about service industries. The assumption of this study is that banking is a unique industry; while it may be similar to other industries, the problems and concerns of the bank manager can not always be analyzed in a multi industry context. The development of a general theory of business policy may have to await further study of conditions within specific industries. Then, the base of industry specific studies can be used to build a model based on the similarities and differences between industries. While the efforts in analyzing specific industries advance at the cost of sacrificing application to all industries, the efforts to build a general theory without also analyzing specific industries runs the greater risk of generalizing to everybody, but being entirely accurate for few industries.

In the field of bank management, this study has several implications. Most generally, the study confirms that bank management can enact turnaround. While regional economic conditions may affect the turnaround (it is certainly easier to manage turnaround in a growth area than a decline area), the study confirms that turnaround can take place in even declining economic regions. More specifically, the study identifies those areas of concern that the turnaround manager must concentrate on. The two key areas are the loan portfolio and the control of overhead. Initially, the turnaround may require an increase in expense. Eventually,

the turnaround will require control of those expenses. The productivity of personnel must be increased. The methods for increasing this productivity includes the use of centralization in key areas, the reduction of personnel, and the addition of new and profitable business. The successful turnaround bank reduces expenses while increasing output; it improves its quality control and adds quality loans to its portfolio; it grows slowly into new profitable ventures. The decline bank grows; its profits do not.

This study has some implications for the regulators of banks. Given that a bank has had three years of decline, there are certain actions that the banks should begin to consider. The regulator of a successful bank will not only know those options; he will take action to encourage bank managers to consider those options. Perhaps more importantly, the data available to the bank regulator far exceeds the data available to this researcher. This study only hints at the potential that such a base offers; the regulators have access to a real life laboratory for testing the effects of alternative policy options under alternate conditions.

Weaknesses of the Study

This study suffers from several weaknesses. The time span of the study coincides with a period of major change within the banking industry. The impact of the change is not entirely clear even at this date. Many of the strategies attempted by the sample banks were opportunities newly available to the banking industry. The period is, in a sense, a learning period for the bank industry. Thus, the conditions which contribute to both decline and turnaround may not be seen again. New

developments may bring entirely new conditions to the bank industry; these new conditions may negate the findings of this study.

A second weakness is similar to the first, in that the time period of the decline and turnaround may be a weakness. Six years may be too long or too short a time period. Perhaps there is a difference between short term decline and long term decline. It is entirely unclear as to whether this study would be labeled short or long term. For those banks which declined for the full six years of the study, there is still opportunity for a turnaround. Public reports indicate that one of these banks did, indeed, turnaround. Further analysis is necessary to attain a clear definition of the terms decline and turnaround.

Still another weakness of the study is its inability to isolate types of decline. Since this has been discussed earlier, further comment is not necessary.

Since this study is exploratory in nature, it can not identify the true causes of decline and/or turnaround. It does identify those conditions which accompany a turnaround, and implicitly assumes that those conditions can be controlled by management. The assumption may not be accurate. There is an infinite set of alternate explanations that might be used to explain the turnaround. While this study lays to rest the most popular alternate explanations, others can not be rejected without further testing.

As a final weakness, we must recognize the findings of some researchers who suggest that the Compustat data base is not entirely accurate. (for a discussion, see Glueck and Willis, 1979). Different banks report certain accounts in different ways, which makes comparisons across banks

difficult. For example, some banks combine reported items into one account, while other banks list these reported items in separate accounts. The Compustat Tapes are checked for validity in several steps (see Appendix). The variables used in this study are variables which are analyzed by bank regulators and other regulators; under such conditions, there is little chance for systematic error in the reports.

Suggestions for Further Research

The weakness of the study highlight several areas that require further research. Longer time spans of decline should be investigated to discover the patterns of turnaround in long term declines. In addition, the fact that there may be more than one type of decline suggests an area for future research to identify if there are different types of decline, and the implications for turnaround of such a difference.

Perhaps the most important research that could follow this study is research into the implementation processes of turnaround strategies. Such questions as when the decline is first recognized, how turnaround strategies are formulated, how they are enacted, judged, and finished are not answered by this research. The present study suggest several hypotheses that might be tested in a study of the implementation of a turnaround; if this study provides some useful hypotheses, it will have many of its initial objectives.

In addition to research on the process of implementing strategy, useful research might be directed toward the analysis of types of decline. In the cases of banks which did not turnaround in this study, the continued decline might be due to the fact that the initial strategies were

inappropriate. Hofer (1980) argues that the successful turnaround strategy is contingent upon the firm's operational and strategic position during the decline. In the context of this study, we might reason that the continued decline group differs from the turnaround group in type of decline, and therefore, the necessary strategies for turnaround are different. Further research to build a taxonomy of decline types (and the appropriate turnaround strategies for each decline type) will prove useful.

Another question not answered by this study is the relationship of the traditional economic cycle to the process of decline and turnaround. Intuitively, we would expect that there are more declines during recessionary times than during an expansion in the economy. In this study, there were both declines and turnarounds during both recession and expansion periods. However, the study makes no attempt to test for differences in turnaround strategies between expansionary and recessionary times. The performance of the national economy may be a significant extraneous variable; the implications that the business cycle holds for the turnaround process offer an interesting and significant opportunity for future research.

A final suggestion for future research is that further research on the turnaround process is necessary for other industries. As this work is completed, the decline of the auto industry (and indeed, the decline of the nation) are topics of current popular public interest. The attendant theorizing about the cause and cures for the decline offer evidence for the current speculative state of our knowledge about the process of turnaround not only in the banking industry, but in other key industries. Further research can shed light on this important area of concern to managers, workers, and consumers.

BIBLIOGRAPHY

Books

Andrews, Kenneth. The Concept of Corporate Strategy. (Homewood, Ill: Dow Jones-Irwin, 1971).

Ansoff, H. Igor. Corporate Strategy: An Analytic Approach to Business Policy for Growth and Expansion. (New York: McGraw-Hill, 1965).

Boston Consulting Group Staff. Perspectives on Experience. (Boston: The Boston Consulting Group, 1968).

Collins, O. F. and D. G. Moore. The Enterprising Man. Bureau of Business and Economic Research, Michigan State University, East Lansing, Michigan, 1964.

Cooley, W. W. and Lohnes, P. R. Multivariate Data Analysis. (New York: Wiley, 1971).

Corns, Marshall C. The Practical Operations and Management of a Bank. (Boston, MA: Bankers Publishing Co., 1968).

Crosse, Howard D. Management Policies for Commercial Banks. (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1962).

Cyert, Richard M. and James G. March. A Behavioral Theory of the Firm. (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1963).

Drucker, Peter. The Practice of Management. (New York: Harper and Row, 1954).

Eisenbeis, Robert A. and Avery, Robert B. Discriminant Analysis and Classification Procedures. (Lexington, MA: D. C. Heath and Company, 1972).

Elkins, Arthur and Dennis W. Callaghan. A Managerial Odyssey: Problems In Business and Its Environment. (Reading, MA: Addison-Wesley Publishing Co., 1978, 2nd ed.).

Fayol, Henri. Industrial and General Administration. Trans. J. A. Coubrough. (Geneva: International Management Institute, 1930).

Green, Paul E. Analyzing Multivariate Data. (Hinsdale, Ill.: Dryden Press, 1978).

Gulick, Luther. "Notes on the Theory of Organization" in Papers on the Science of Administration. L. Gulick and L. Urwick, Eds. (New York: Columbia University Press, 1937).

Hofer, Charles W. and Dan Schendel. Strategic Management: A New View of Business Policy and Planning. (Boston, MA: Little, Brown and Co., 1979).

Hofer, Charles W. and Dan Schendel. Strategy Formulation: Analytical Concepts. (St. Paul, MN: West Publishing Co., 1978.

Kerlinger, Fred N. Foundations of Behavioral Research. (New York: Holt, Rinehart and Winston, Inc., 1973, 2nd ed.).

Kmenta, Jan. Elements of Econometrics. (New York: Macmillan Co., 1971).

Lachenbruch, P. A. Discriminant Analysis. (New York: Hafner Press, 1975).

Moody's Investors Service, Inc. Moody's Bank and Finance Manual, 1979-1980. (New York, 1979, 1980).

Rao. C. R. Advanced Statistical Methods in Biometric Research. (New York: Wiley, 1952).

Ross, Joel E. and Michael J. Kami. Corporate Management In Crisis: Why The Mighty Fall. (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1973).

Rumelt, Richard. Strategy, Structure and Economic Performance. (Cambridge, MA: Harvard University Press, 1974).

Steiner, George A. Top Management Planning. (New York: Macmillan, 1969).

Udell, Jon G. Successful Marketing Strategies. (Madison, Wisc., 1972).

Uyterhoeven, Hugo, Robert Ackerman, and John W. Rosenblum. Strategy and Organization: Text and Cases In General Management. (Homewood, Ill: Richard D. Irwin, 1973).

Articles, Dissertations, Manuscripts

Alston, Floyd W., "Training Course Explains Managerial Function," The Magazine of Bank Administration, July 1977, Vol. 53, No. 7, pp. 54-55.

Altman, Edward, "Financial Ratios, Discriminant Analysis, and The Prediction of Corporate Bankruptcy," Journal of Finance, September 1968, Vol. XXIII, No. 4, pp. 589-609.

Argenti, John, "Company Failure: The Tell-Tale Signs at the Top," Management Review, February 1976, pp. 41-43.

Argenti, John, "Corporate Planning and Corporate Collapse," Long Range Planning, December 1976, pp. 12-17.

Asher, Joseph, "Agbanking — New Twist on Joint Venture," Banking, September 1976, Vol. 69, No. 9, p. 70.

Asher, Joseph, "Regionals Find Their Niche in Foreign Banking," Banking, July 1976, Vol. 68, No. 7, pp. 25-27.

Baker, James V. Jr., "Asset/Liability Management Policy: Why It's a Must," Banking, June 1978.

Bazley, John D., "An Examination of the Ability of Alternative Accounting Measures to Predict Failure," Review of Business and Economic Research, Fall 1976, Vol. XII, pp. 32-47.

Beaver, William H., "Alternative Accounting Measures as Predictors of Failure," The Accounting Review, January 1968, 43, pp. 113-122.

"Boston Bank Tests New Training Program," Banking, August 1975, Vol. 67, No. 8, p. 8.

Bourgeoise, L. J. III, "Strategy and Environment: A Conceptual Integration," Academy of Management Review, 1980, Vol. 5, No. 1, pp. 25-39.

"Buying Banks: The Bidding Gets Dizzy," Forbes, July 10, 1978, Vol. 122, No. 1, pp. 32-33.

"CBT Forecasts Higher 1974 Earnings," U.S. Investor Eastern Banker, February 25, 1974, Vol. 85, No. 4, pp. 41-43.

Chevelier, Michel, "The Strategy Spectre Behind Your Market Share," European Business, 1972, No. 34, pp. 62-72.

Clawson, W. Kemp, "Software Physics Shows Managers What's Happening," Computer World, January 17, 1977, Vol. 11, No. 3, p. 25.

Clowes, Michael, "Recent Fixed-Income Returns Lag Inflation," Pensions and Investments, November 19, 1979, Vol. 7, No. 24, p. 15.

"Crocker's Tom Wilcox: Tough Management for a Stodgy Bank," Business Week, August 11, 1975.

Curtis, Carol E., "Prime Time Banks," Forbes, June 23, 1980.

Datta, Y., "Competitive Strategy and Performance of Firms in the U.S. T.V. Set Industry: 1950-1966," Academy of Management Proceedings, August 1979, pp. 113-117.

Dunlop, John T., "Policy Decisions and Research in Economics and Industrial Relations," Industrial Relations and Labor Review, 1977, Vol. 30, No. 3, pp. 275-282.

Emery, F. E. and E. L. Trist, "The Causal Texture of Organizational Environments," Human Relations, 1975, Vol. 18, pp. 21-32.

Emery, John T., Robert J. Halonen and Robin E. MacStravic, "The Prediction and Planning of Organizational Change in Health Care Institutions," Journal of Economics and Business, Spring-Fall 1976, p. 242.

"Financial World's Directory of Top Growth Banking Companies," Financial World, September 24, 1975, Vol. 144, No. 12, pp. 10-11.

Fleming, Stewart, "Marine Midland Makes an Unlikely Marriage," Eurofile (Banker Supplement), May 1978, pp. 7-9.

Ford, William, "How 1,000 High Performance Banks Weathered the Recent Recession," Bankers Magazine, April 1978.

Ford, William, "Using 'High Performance' Data to Plan Your Bank's Future," Bankers Magazine, October 1978.

Ford, William and Dennis Olson, "Profitability: Why Do Some Banks Perform Better Than Others: An In-Depth Analysis," Bankers Magazine, October 1978.

Frederick, Donald G., "Discriminant Analysis," unpublished manuscript, University of Massachusetts, Amherst, June 1975.

Fruhan, William E. Jr., "Pyrrhic Victories In the Fight for Market Share," Harvard Business Review, 1972, Vol. 50, No. 5, pp. 100-107.

Glueck, William F. "Business Policy: Reality and Promise," Academy of Management Proceedings, 1972, pp. 108-111.

Glueck, William F. and Robert Willis, "Documentary Sources and Strategic Management Research," Academy of Management Review, January 1979, Vol. 4, No. 1, pp. 95-102.

Graham, Kenneth R. and Max D. Richard, "Relative Performance Deterioration, Management and Strategic Change in Rail Based Holding Companies," Academy of Management Proceedings, 1979, pp. 108-112.

Gutmann, Peter M., "Strategies for Growth," California Management Review, Summer 1964, Vol. VI, No. 4, pp. 31-36.

"Hard Driving Matthews Turns Profit at Shaker Union Planters," American Banker, February 21, 1978.

Hatten, Kenneth J., "Strategic Models in the Brewing Industry," Doctoral Dissertation, Purdue University, 1974.

Hatten, Kenneth J., "Quantitative Research Methods in Strategic Management," in Strategic Management: A New View of Business Policy and Planning. (Boston: Little, Brown and Co., 1979), pp. 448-467.

Herold, David M., "Long Range Planning and Organizational Performance: A Cross Validation Study," Academy of Management Journal, March 1972.

Hofer, Charles, "Some Preliminary Research on Patterns of Strategic Behavior," Academy of Management Proceedings, 1973, pp. 46-54.

Hofer, Charles W., "Toward A Contingency Theory of Business Strategy," Academy of Management Journal, December 1975, Vol. 18, No, 4, pp. 784-808.

Hofer, Charles W., "Turnaround Strategies," The Journal of Business Strategy, Summer 1980, Vol. 1, No. 1, pp. 19-31.

Holmberg, Steven R., "Commercial Bank Strategic Planning: The Role of the Business Economist," University of Michigan Business Review, March 1978, pp. 25-30.

Homermesh, R. G., M. J. Anderson, Jr., and J. E. Harriss, "Strategies for Low Market-Share Business," Harvard Business Review, May/June, 1978.

Jacobs, William, "Putting a Big Umbrella Over Credit Collection," Banking, September 1973, Vol. 6, No. 3, pp. 192-194.

Johnson, Rodney and David R. Meunster. "The Performance of Bank Holding Company Acquisitions: A Multivariate Analysis," Journal of Business, April 1975, Vol. 48, No. 2, pp. 204-212.

Karger, D. W. and F. A. Malik, "Long Range Planing and Organizational Performance," Long Range Planning, December 1975.

Kendall, Clifford J., "Solving the Computer Input Problem," Bankers Monthly, March 15, 1972, Vol. 89, No. 3, pp. 36-38.

Khandwalla, Pradys N. "The Techno-Economic Ecology of Corporate Strategy," Journal of Management Studies, February 1976, pp. 62-75.

Kim, Jae-On, "Factor Analysis" in Statistical Package for the Social Sciences, Norman H. Nie, et al., New York: McGraw-Hill, 1975, 2nd ed.

Kinsman, Robert, "Western Asset Management Begins to Run," Institutional Investor, May 1975, Vol. 9, No. 5, p. 71.

Klecka, William R., "Discriminant Analysis" in Statistical Package for the Social Sciences, Norman H. Nie, et al. New York: McGraw-Hill, 1975, 2nd ed.

Kumler, Roger, "Money Management Capabilities of Regional Bank Trust Departments," Trusts and Estates, January 1972, Vol. III, No. 1, p. 28.

Lachenbruch, P. and R. M. Mickey, "Estimation of Error Rates in Discriminant Analysis," Technometrics, 1968, Vol. 10, pp. 1-11.

Lindblom, Charles, "The Science of Muddling Through," Public Administration Review, Spring 1959.

Luthans, Fred and Todd Stewart, "A General Contingency Theory of Management," Academy of Management Review, April 1977, Vol. 2, No. 2, pp. 181-195.

Lyons, John F., "What's Wrong at First Pennsy," Financial World, May 7, 1975, Vol. 143, No. 19, pp. 9-12.

"Marian The Librarian Never Had It So Good," Bank Systems and Equipment, August 1975, Vol. 12, No. 8, pp. 61-62.

"Market Timing Works at Large Bank," Pension and Investments, March 31, 1975, Vol. 3, No. 7, p. 20.

Mayne, Lucille S., "Management Policies of Bank Holding Companies and Bank Performance," Journal of Bank Research, Spring 1976, Vol. 7, No. 1.

"Merging Payroll, Personnel Avoids Dual Data Files," Computer World, February 28, 1977, Vol. 11, No. 9, p. 14.

"Microfilm System Provides Management Controls," The Magazine of Bank Administration, April 1977, Vol. 53, No. 4, pp. 60-64.

Miksinski, Anne F., "Bank Controls Its Copying Costs," The Office, April 1977, Vol. 85, No. 4, pp. 83-86.

Miller, Danny, "Common Syndromes of Business Failure," Business Horizons, November 1977, p. 43-53.

Mintzberg, Henry, "Patterns in Strategy Formation," Management Science, May 1978, Vol. 24, No. 9.

Mintzberg, Henry, "Research on Strategy Making," Academy of Management Proceedings, August 1972, pp. 90-94.

Mintzberg, Henry, "Strategy Making on Three Modes," California Management Review, Winter 1973, Vol. XVI, No. 2.

Morris, John O. and Thomas R. Wilcox, "Well-Written Credit Reports — A Successful Program," The Journal of Commercial Bank Lending, July 1974, Vol. 56, No. 1, pp. 51-63.

Murray, Edwin A. Jr., "Strategic Choice as a Negotiated Outcome," Management Science, May 1978, Vol. 24, No. 9.

"The New York City Banks," Financial World, September 1, 1977, Vol. 146, No. 17, pp. 30-31.

Paine, Frank T. and Carl R. Anderson, "Contingencies Affecting Strategy Formulation and Effectiveness: An Empirical Study," Journal of Management Studies, May 1977, pp. 147-158.

Parry, Robert J. and John C. Howe. "Programming Assets and Liability Management," Bankers Magazine, Autumn 1974, Vol. 157, No. 4, pp. 78-86.

Patton, G. Richard, "A Simultaneous Equation Model of Corporate Strategy: The Case of the U.S. Brewing Industry," Doctoral dissertation, Purdue University, August 1976.

Perreault, William D. Jr., Douglas N. Behrman and Gary M. Armstrong, "Alternative Approaches for Interpretation of Multiple Discriminant Analysis in Marketing Research," Journal of Business Research, 1979, Vol. 7, pp. 151-173.

"Pointing to Growth," International Management, November 1979, Vol. 34, No. 11, pp. 27-28.

Quinn, James Brian, "Strategic Change: Logical Incrementalism," Sloan Management Review, Fall 1978.

Relac, Joseph C., "Micrographic Systems: Closing the Gaps Through Central Control," Journal of Micrographics, November/December 1978, Vol. 12, No. 2, pp. 114-116.

Richards, Max D., "An Exploratory Study of Strategic Failure," Academy of Management Proceedings 1973, pp. 40-45.

Richman, Alan, "First Pennsylvania Bank Marries On-Line Reconcilement to Physical Handling of MICR Rejects," Bank Systems and Equipment, June 1975, Vol. 12, No. 6, pp. 54-57.

Rue, Leslie W. and Robert M. Fulmer, "Is Long-Range Planning Profitable?" Academy of Management Proceedings, August 1973.

San Miguel, Joseph. "The Reliability of R & D Data in Compustat and 10K Reports," The Accounting Review, July 1977, Vol. 52, No. 3, pp. 638-641.

Schendel, Dan and G. Richard Patton, "Corporate Stagnation and Turnaround," Journal of Economics and Business, Vol. 28, No. 3, Summer 1976.

Schendel, Dan, G. Richard Patton, and Jones Riggs, "Corporate Turnaround Strategies: A Study of Profit Decline and Recovery," Journal of General Management, Spring 1976, Vol. 3, No. 3.

Sheehan, Gary, "Long Range Strategic Planning and Its Relationship to Firm Size, Firm Growth, and Firm Variability: An Explorative, Empirical Investigation," Doctoral dissertation, University of Western Ontario, 1975.

Schoeffler, Sidney, Robert Buzzell, and Donald Heany, "Impact of Strategic Planning on Profit Performance," Harvard Business Review, March/April 1974, Vol. 52, No. 2.

Silberman, H. Lee, "Banker of the Year — Crocker National's Thomas R. Wilcox," Finance Magazine, October 1977.

Sinkey, Joseph Jr., "A Multivariate Statistical Analysis of the Characteristics of Problem Banks," Journal of Finance, March 1975.

Sistek, Walter, "Corporate Systems — Problem Solving Team," Burrough's Clearing House, January 1972, Vol. 56, No. 4, p. 15.

Smith, James L. and Robert A. Hess, "Adding Accessories to Checking Accounts," Banking, April 1977, Vol. 65, No. 10, p. 30.

"Takeover Targets Find An Ally at the SEC," Business Week, March 27, 1978, No. 2527, pp. 50-52.

Taylor, Alan, "In Age of Data Bases, Users Must Check Their Files," Computer World, December 13, 1976, Vol. 10, No. 5, p. 15.

Thayer, Peter W., "Solving the Operational Problems on Option Writing — Union Planter's Approach," Trusts and Estates, May 1977, Vol. 116, No. 5, pp. 337-338.

Thune, Stanley and Robert House, "Where Long Range Planning Pays Off," Business Horizons, August 1970.

Tuason, Romon V. Jr., "Corporate Life Cycle and the Evaluation of Corporate Strategy," Academy of Management Proceedings, 1973, pp. 35-39.

"Two Banks Speed Work By Operations With Terminals," Computer World, September 13, 1976, Vol. 10, No. 33, p. 37.

Ward, John L., "The Opportunity to Measure Strategic Variables: An Attempt to Quantify Product-Market Diversity," Journal of Economics and Business, Spring/Summer 1976.

Weir, James E., "Toward the Theoretical Foundations of a Contingency Theory of Policy Making Behavior," Academy of Management Proceedings, 1979, pp. 128-132.

Woodbridge, Henry S., "Whittling Clerical Costs," Personnel, January/February 1972, Vol. 49, No. 1, pp. 47-52.

Reports

Bancal Tristate Corp. Annual Reports, 1971-1977.

Banco Popular de Puerto Rico. Annual Reports, 1972-1979.

Continental Illinois Bank. Annual Reports, 1965-1971.

Crocker National Bank. Annual Reports, 1974, 1975, 1979.

Detroit Bank Corporation. Annual Reports, 1969 through 1975; 1979.
"Report to Financial Analysts Society of Detroit," November 6, 1974.

Equimark Corporation. Annual Reports, 1970-1976.

First Hawaiian, Incorporated. Annual Reports, 1971-1977.

First Pennsylvania Corporation. Annual Reports, 1972-1979.

First Union Corporation (N.C.). Annual Reports, 1971-1977.
"Report to Security Analysts," September 12, 1979.

Girard Company. Annual Reports, 1969 through 1975; 1979.

Greater Jersey Bancorp. Annual Reports, 1971-1979.

Lincoln Banks. Annual Reports, 1969 through 1979.

Marine Midland Bank. 1980 Annual Reports. 10K Report, 1973, 1974, 1975.

Mercantile Texas Corporation. Annual Reports, 1976, 1977.
Investment Broker's Report by Rotan Mosle, Inc.

Midlantic Banks. Annual Report, 1979.

Philadelphic National Corporation. Annual Reports, 1969-1979.

Pittsburgh National Corporation. Annual Report, 1979.

Security Pacific. Annual Reports, 1969; 1976.

Shawmut Corporation. Annual Reports, 1969, 1970, 1974, 1975.

Society Corporation. Annual Reports, 1972 through 1979.

State Street Bank. Annual Reports, 1969 through 1975; 1979.

Texas Commerce Bancshares. Statement of Condition, 1964-1970.

Union Planter's Corporation. Annual Reports, 1972 through 1978.

United Virginia Bankshares. Annual Reports, 1972 through 1978.

APPENDIX A

APPENDIX A

This appendix presents the definition of each of the variables used in the study, as reported by the Compustat tapes.

v1). Net income/equity

Net income: Net current operating earnings (after minority interest) plus net after tax and after minority interest profit or loss on securities sold or redeemed. This net income figure is before any additions or deductions for extraordinary items.

Equity: This is computed by adding preferred stock (par value) and the total book value.

Preferred stock (par value) is the total dollar value, at par or stated value, of all preferred stock outstanding. Excludes the dollar value at par of all preferred stock repurchased and carried as treasury stock.

Total Book Value is the total equity of the common stockholders in the capital of the bank. This includes common stock, surplus, undivided profits, reserves for contingencies, and other capital reserves.

v2). Return on earning assets

Return: This is computed by adding aggregate loan and investment revenue, trading account income, and interest on due from banks.

Earning Assets: This is computed by adding due from banks, total investment securities, trading account securities, and gross loans.

Aggregate loan and investment revenue is the sum total of revenues received from all loan and investment securities. This includes: interest on fees and loans, interest income on federal funds sold, interest income on securities purchased with agreement to resell, and total interest and dividends on investments.

Trading Account Income is the total revenues net of incidental expenses received from the bank's purchase and/or resale of securities with other banks or with

the public. Included income and expense items are: interest and profits or losses on trading account securities, re-evaluation adjustments, incidental income and expenses related to the purchase and sale of such securities. Non-incidental and indirect expenses (such as salaries, commissions and interest on borrowed money) are not netted against revenue.

Interest on Due from Banks is interest earned on deposits in other banks.

Due From Banks is the sum total of deposits (time) at other banks, which draw interest.

Total Investment Securities is the total of all securities held in the bank's investment account.

Trading Account Securities is the aggregate net value of all securities regularly purchased and held by the bank in a dealer trading account for resale to other banks and/or the public.

Gross Loans is the aggregate face value of all outstanding loans before the deduction of reserves for bad debt losses on loans.

v3). Net interest/earning assets

Net Interest: This is computed by adding aggregate loan and investment revenue, trading account income, and interest on due from banks; total interest expense is subtracted from this figure. The first three items are defined above; total interest costs are defined below.

Earning Assets are computed as reported above.

Total interest expense is the total interest paid on deposits, borrowings, and capital notes and expenditures.

v4). Operating expense/earning assets

Operating Expenses: The total of all operating expense charged against the bank's operating revenue. This includes: aggregate salaries and related expense, total interest on deposits and borrowings, interest on capital notes and debentures, and aggregate other current operating expense. This item does not include income taxes.

Earning Assets are computed as explained above.

v5). Overhead/earning assets

Overhead: This is reported as aggregate Other current expenses.

Earning assets are computed as explained above.

> Aggregate Other Current Operating Expenses are the total operating expenses reported by the bank, other than salary and interest expense. This includes provisions for loan losses, occupancy, expense of bank premises, furniture and equipment expenses, and other current operating expenses.

v6). Interest on deposits/all deposits

Interest on Deposits: The total interest and expense paid on all deposit accounts and borrowed money.

Total Deposits: The total of all deposits in the bank's domestic and foreign offices.

v7). Interest on deposits/time and savings

Interest on deposits is defined above.

Time and savings is the aggregate amount of time and savings deposits.

v8). Net income/employees

Net income is as defined above.

Employees is the total number of employees on the bank's payroll at the end of the year.

v9). Payroll expense/employees

Payroll expense is the sum expended for salaries and wages and for employee benefits (pension and insurance, etc.)

v10). Assets/employees

Assets are the total assets of the corporation

v11). Gross loans/all deposits

Gross loans includes gross loans and Federal funds sold and securities purchased with agreement to resell (defined below)

Total deposits are as defined above.

Federal funds sold and securities purchased with agreement to re-sell are the excess reserve balances, held in the Federal Reserve Bank, that have been loaned to another bank; and loans made to other banks and/or customers as a result of the acquisition of securities (or negotiable evidence of indebtedness) that are under resale agreements or similar arrangements.

v12). Cash and treasuries/total demand deposits

Cash and Treasuries is the sum of cash and due from banks, and U.S. Treasury securities.

Total Demand Deposits is the total demand deposits in the bank.

v13). Loan income/gross loans

Loan income is the revenue received from interest and fees on loans.

Gross loans include gross loans and Federal funds sold, etc. (as defined above).

v14). Securities income/securities

Securities income is the total income from investments, excepting investments on state and town obligations

Securities is the average value of taxable investments for the year.

v15). Municipal income/muncipals

Municipal income is the interest on state and town obligations.

Municipals is the average value of non-taxable investments for the year.

v16). Loan loss provision/earning assets

The loan loss provision is the amount identified by management to add to reserves for loans in a particular year.

Earning assets are computed as defined above.

v17). Gross chargeoffs/loans

Gross chargeoffs are the net credit or charge to reserves for debt recovery.

Gross loans are computed as defined above.

v18). Equity/assets

Equity is computed as defined above.

Assets are the total assets of the bank.

v19). Loan loss coverage ratio

Loan loss coverage ratio is the sum of current operating earnings before taxes and the provision for loan losses, divided by the net credit or charge to reserves for debt recovery.

v20). Reserve/gross loans

Reserve is the current unused balance of the provisions made for possible loan losses pursuant to the U.S. Treasury tax formula. This includes the provision made pursuant to the tax formula, and amounts in excess of the formula which represent management judgment with respect to possible loss.

v21). Asset growth

Asset growth is the annual % growth in assets.

v22). Deposit growth

Deposit growth is the annual % growth in deposits.

v23). Equity growth

Equity growth is the annual % growth in equity.

APPENDIX B

APPENDIX B

This appendix presents a brief description of each bank in the sample; turnaround banks are described first.

Pure Turnaround Banks

Colorado National Bankshares

Between 1972 and 1978, Colorado National underwent decline and turnaround. Colorado National is a registered bank holding company, with interests in commercial banking, leasing, real estate services, mortgage banking, and insurance services. In 1971, the corporation acquired two banks, acquired a mortgage company, and organized a bank. In 1972, the corporation acquired two more banks, and organized one. In 1973, a leasing company was formed. In 1974, the corporation acquired two more banks and formed an insurance agency. In 1975, the bank entered a joint real estate venture to build an office building. In 1976, the corporation organized an industrial bank.

Detroitbank Corporation

Detroitbank endured a decline and turnaround during the period 1969-1975. In 1973, the corporation was formed to acquire the Detroit Bank and Trust Company. Detroitbank is a registered bank holding company with 121 domestic branches. Its general banking services include international banking, trust services, and leasing. In 1974, the corporation formed a leasing company. In 1975, the corporation acquired a bank.

Mercantile Texas Corporation

This bank underwent decline and turnaround during the period 1971 to

1977. In 1975, the Mercantile Texas Corporation was formed to purchase the Mercantile National Bank of Texas. The corporation is a registered bank holding company with subsidiaries in data processing and insurance. During the turnaround, significant corporate activities included the hiring of a new chief executive officer and new managers, the introduction of the profit center concept, the formation of the holding company, the acquisition of a business, and an aggressive campaign to secure business in medium sized corporations.

Midlantic Banks

Midlantic endured a decline and turnaround for the years 1972-1978. During this period the corporation acquired several banks and a mortgage company. The corporation is a bank holding company with six commercial banking subsidiaries and three bank related subsidiaries. The areas of diversification include mortgage business, factoring, and leasing. The bank attributes part of its success to aggressive marketing (television campaigns, etc.).

Society Corporation

The period 1970-1976 was one of decline and turnaround for the Society Corporation. During this period, the bank purchased several banks, and had several others join the corporation as affiliates. The bank also received approval to form an insurance company. The corporation's strategy during this period included the use of market sensitive liabilities to support market sensitive assets, the use of little diversification, the use of cost controls, service to local markets, and the avoidance of high risk loans.

Union Commerce Corporation

Union Commerce entered its decline in 1966, and turned around by 1972. In 1970, the corporation was formed to become the principal owner of the Union Commerce Bank. Union Commerce is the lead bank in the corporation, which has three subsidiary banks. The corporation now includes a leasing company and a capital management company.

Union Planters Corporation

1972 to 1977 was a period of decline and turnaround for this corporation, which was formed in 1971 to purchase the Union Planter's National Bank of Memphis. The business of the corporation include commercial banking, trust services, real estate financing, data processing, credit life insurance, and mortgage banking. This bank is somewhat unique in the sample, in that during the period of the decline significant fraud problems were uncovered. The new management restructured the bank, entered new businesses, installed new loan procedures, and reduced personnel.

United Virginia Bankshares

The period 1972 to 1978 was one of decline and turnaround. These years saw many acquisitions at the corporation; included among the acquisitions were commercial banks and a factoring company. The corporation also formed leasing and investment businesses during this time. In 1978, the corporation sold the factoring company. The bank's annual report describes its turnaround strategy: "Our principal efforts in 1976 will be directed toward emphasizing quality and pricing, reducing loan losses, restoring non-accrual assets to earning status, vigorously seeking core deposits — both demand and time and controlling non-interest

expenses. We shall continue to meet the needs of our customers by selecting sound credits for productive purposes."

Impure Turnaround Banks

BankAmerica Corporation

The period of decline and turnaround for this banking giant was 1960 through 1966. This time preceded the actual formation of the corporation, which was in 1968. The corporation purchased what had been known as the Bank of America. This bank provides consumer services, commercial services, trust services, leasing, funds management, data processing, real estate services, and other bank related services.

Chemical New York Corporation

Chemical's decline and turnaround occurred in the period 1970 through 1976. The bank's activities during this period included the acquisition of several banks, a mortgage company, a consumer finance company, and an investment advice company. The bank's business covers 22 states and 38 countries, and includes a Metropolitan Bank, a Corporate Bank, an International Bank, a Trust and Investment Bank, and a Real Estate Bank.

Continental Illinois Corporation

The period of decline and turnaround for Continental was 1965 to 1971. The holding company structure was adopted in 1968 (the corporation purchased Continental Illinois Bank and Trust Company). The holding company includes a mortgage bank, a reality advice firm, leasing services, and venture capital services among its businesses.

Fidelity Union Bancorp

In 1970, this corporation was formed to purchase Fidelity Union Trust Company and two other banks. The period 1970 through 1976 included a period of decline and turnaround. During this period, the corporation acquired several banks, and formed a data processing company (subsequently discontinued). The bank engages in international banking, commercial banking, and consumer finance.

First Empire State Corporation

The period 1972 to 1978 was this bank's time of turnaround and decline. Theyacquired several banks and formed a financial services corporation. The bank's business includes commercial banking, real estate financing, and small business capital formation.

First Hawaiian Incorporated

The corporation was formed in 1973 to become the holding company for the First Hawaiian Bank of Honolulu. The years 1971 through 1977 included a time of decline and turnaround for the corporation. During this time period, the corporation formed an industrial loan company and a leasing company. The corporation's business includes the bank, a leasing company, two thrift companies (loan companies) and a property management company. The bank's turnaround efforts included the attempt to improve the performance of the loan portfolio, and an attempt to control costs.

First Pennsylvania Corporation

The corporation's business includes commercial banking, mortgage banking, consumer finance services, securities dealing, and investment

advice. The bank first entered its decline in 1972, and enacted its turnaround by 1978. The bank's turnaround efforts included a restructuring of major portions of the organization, the use of counter cyclical subsidiaries, and aggressive portfolio management. These moves were accompanied by an attempt to control expenses (which included a staff reduction). While this bank did enact a turnaround during the period of study, 1980 found the bank in considerable trouble. Its failure was prevented only by the assistance of several banks (whose efforts were encouraged by federal authorities).

First Maryland Bancorp

The corporation was formed in 1973 to purchase the First National Bank of Maryland, which had entered a decline in 1971. By 1977, the corporation had witnessed a turnaround. During this period, the corporation acquired several banks and a credit business. The corporation's businesses include credit, leasing, mortgage banking, financial services, and commercial banking.

Hawaiian Bancorp Inc.

The corporation was formed in 1971 to purchase the Bank of Hawaii, which entered its decline in 1969. The decline was reversed by 1975. The corporation's businesses include commercial banking, foreign banking, investment advice, computer services, leasing devices, and industrial loans.

Hospital Trust Corporation

Hospital Trust is a one bank holding company (formed in 1969 to acquire the Rhode Island Hospital Trust Company) which enacted a turnaround

during the period 1972 through 1978. The corporation's businesses include the bank, leasing services, construction mortgages, and short term loans on income producing properties.

Huntington Bancshares

This multi-bank holding company declined and turned around during the years 1970 through 1976. In this period, the corporation acquired several banks and formed a mortgage subsidiary. The corporation's business includes commercial banking, international banking, computer services, real estate services, and investment counseling.

Liberty National Corporation

The Liberty National Corporation entered its decline in 1969 (one year after the corporation was formed to buy Liberty National Bank and Trust of Oklahoma), and reversed the decline by 1975. During this timespan, the corporation purchased a factoring company and formed a financial corporation. The corporate business includes two banks, a financial corporation, a mortgage company, a real estate company, and a leasing corporation.

Maryland National Corporation

The corporation declined and turned around during the period 1970 through 1976. The bank formed several companies during this period: a leasing corporation, a realty advisory company, a capital management company, an industrial finance company, and a home loan and realty company. In addition, the corporation acquired two banks.

Mellon National Corporation

The corporation was formed in 1971 to purchase the Mellon Bank, which had entered its decline period in 1969. By 1975, the decline had been reversed. During this time period, the bank (or its corporate headquarters) acquired or formed a mortgage company, a foreign bank, a leasing company, and an international finance company.

National Detroit Corporation

The corporation was formed in 1972 to purchase the National Bank of Detroit, which entered its period of decline in 1969. The turnaround was accomplished by 1975. During this period, the corporation acquired several banks and formed a leasing company. The corporate business includes commercial and retail banking, international banking, mortgage banking, trust services, and computer services.

New England Merchant's Inc.

New England Merchant's National Bank entered its decline period in 1970. The holding company (New England Merchant's Inc.) was formed in 1971. Turnaround was achieved by 1976. During this period, the corporation acquired some banks, and formed a realty company and an investment advisors group. In addition, a leasing company became a subsidiary. The corporation engages in commercial banking services, and bank related business such as venture capital, leasing, and realty financing.

Northern Trust Corporation

The corporation was formed in 1971 to purchase Northern Trust Bank. The corporation enacted a turnaround during the period 1970 to 1976.

During this period, the corporation formed a farm management company, and several trust companies. The corporation's businesses include domestic banking, international banking, trust services, bond underwriting and distribution, farmland fiduciary management, and leasing activities.

Pittsburgh National Corporation

The corporation declined and turned around in the period 1970 to 1976. The corporation is a one bank holding company with interests in insurance and mortgage banking. During the period, the corporation formed a company to provide financing for its affiliates, and formed an insurance related business. One strategy recognized for its contribution in the bank's success was the strategy of finding a market "niche" in foreign operations, so that the bank did not compete directly with major international banks. This strategy involved lending internationally on the basis of regional expertise; that is, supporting international lending with regional sources of money, and providing lending needs for local companies which compete on the international markets.

Republic of Texas Corporation

The corporation form was enacted in 1974 to reorganize the Republic National Bank of Dallas, which declined and turned around during the period 1970 through 1976. During this period, the corporation acquired several banks. The corporate business includes domestic and international banking, trust services, government securities underwriting, mortgage banking, credit life insurance, and other bank related services. During 1975, the bank recorded the second highest growth rate among the year's top growth banking companies (the bank ranked 51st in the previous year).

Texas Commerce Bancshares

Texas Commerce enacted a turnaround during the period 1964 to 1970. The corporation's business includes commercial banking services, international banking, leasing, money market operations, personal banking, and trust services.

United Bank Corporation of New York

This multibank holding company was incorporated in 1971, the first year of the bank's decline. The corporation staged a turnaround by 1977. During this period, the bank acquired several banks. In addition to banking services, the corporation offers non-banking services such as leasing and data management.

United National Bank of Pittsburg

This bank enacted a turnaround during the years 1969 to 1975. During this period, one bank merged into United National. The bank offers commercial, savings, trust and real estate services.

Western Bancorporation

The corporation began its decline in 1970, and completed its turnaround by 1976. During this period, the bank merged several of its subsidiaries. In addition, the bank formed a finance company in Hong Kong, acquired an asset management company, and a data processing subsidiary. The corporation holds controlling interests in 22 banks operating in 11 states; it provides a wide range of banking and bank related services.

Pure Decline Banks

Baybanks Incorporated

Baybanks entered a decline period for the year 1969 through 1975. Baybanks is a multi-bank holding company, which owns a majority interest in eleven banks in Massachusetts. The member banks control a small business investment company, a data services company, and a finance and leasing company.

Equimark Corporation

The corporation was formed in 1968 to acquire control of Western Pennsylvania National Bank. The corporation declined during the years 1970 to 1976. In the year previous to the decline, the bank acquired an equipment leasing company, which was subsequently sold (1975). During the decline, the company acquired a consumer finance company, which was also subsequently sold (1975). The company formed and sold another bank related business (this sale was in 1976), and formed a commercial finance company.

Greater Jersey Bancorp

The corporation was formed in 1971 to reorganize the New Jersey Bank, N.A. The company experienced decline for the period 1971 to 1977. During this time, the company acquired several banks and a mortgage company. The chief subsidiaries of the corporation included the bank, a mortgage company, and a leasing company. Towards the end of the decline, the company enacted strategies to concentrate its market in a portion of the state (rather than the whole state) and to control costs.

Hartford National Corporation

Hartford National endured a decline for the period 1969 through 1975. During this time, the company established a realty company, formed a trust company, and formed a financial services company. In 1973, it sold its interest in a mortgage company. Its major businesses included domestic banking, international banking, trust services, bond operations, and venture capital for small businesses.

Lincoln First Banks

During its period of decline from 1969 to 1975, Lincoln acquired several banks, a mortgage company, and formed a commercial finance corporation. During this time, the company restructured its operations, which moved from a functional structure to a customer oriented structure.

Marine Midland Banks

Marine Midland experienced decline for the period 1969 to 1975. During this period, the bank changed to a regional structure (which was subsequently changed again when N.Y. State passed a law permitting unit branch banking in the state). During the decline, the bank froze executive salaries and engaged in personnel reduction efforts. An attempt was made to match the sensitivity of assets and liabilities, to avoid wide swings in return. Attempts were made to control all costs. After this period, the bank was purchased by a Hong Kong bank.

Shawmut Corporation

Shawmut endured a decline during the period 1969 to 1975. During this period, the corporation acquired and merged several banks. The bank restructured its management group, tightened its loan review procedures,

and took a cautious attitude toward asset expansion. Toward the end of the period, the bank recognized the need to reduce the loan portfolio, and to control expenses (both by the use of standardized products and operating procedures, and by the reduction of staffing levels).

Impure Decline Banks

Bancal Tristate Corporation

Bancal is a one bank holding company which experienced decline for the period 1971 to 1977. During this period, the bank's management recognized that previous growth had caused increased expenses; management turned its attention to these expenses. The attention included attempts to reduce staff and to control occupancy expenses. The bank also added subsidiaries in leasing data management, investment advisory services, and capital management. During the later stages of the decline, the bank acted to divest itself of unprofitable subsidiaries (a mortgage company was sold in 1975). At this time, the bank dropped some of its loan business, added new management, restructured its loan portfolio, and adopted a new loan review procedure. The bank also sold 30 branches.

Banco Popular de Puerto Rico

Banco Popular is a corporation whose headquarters is in Puerto Rico. Its business includes banks in Puerto Rico, New York, and Los Angeles. During its decline period (1972-1978) the corporation expanded international business through the use of correspondent relationships, added new branches, opened its Los Angeles branch, liquidated a subsidiary, and purchased a bank.

CBT Corporation

The Corporation was formed to serve as the holding company for the Connecticut Bank and Trust Company in 1970. The corporation endured a decline for the period 1969 to 1975. During this period, the corporation formed several companies (in data services, realty, capital management, business credit). The corporation also acquired a bank, a financial corporation, and a discount corporation. The corporation's businesses included consumer finance, correspondent activities, data processing, trust services, financial services, capital management, and international banking.

Crocker National Corporation

Crocker National Corporation experienced a decline for the period 1969 to 1975. During this time, the corporation acquired a leasing company and a mortgage company, and formed a small business investment company. Most of this business was sold after the period of the decline (in 1977 and 1978). The bank underwent significant management changes during the decline. New management hired many specialists from outside the bank, adopted a new structure, changed staff compensation, increased training, and reduced borrowing. After the period of this study, the new CEO was named Banker of The Year, in recognition of his successful attempts to reverse the decline.

Financial General Bankshares

Financial General experienced decline for the period 1971 to 1977. During this period, the bank formed a new bank in the Virgin Islands, sold its majority interest in several banks, sold its minority interest in several banks, and merged two banks.

First Union Corporation (N.C.)

First Union endured decline for the period 1971 to 1977. During this time, the bank adopted tight controls of expenses, adopted a new structure, shifted its attention from growth to consolidation, consolidated loan offices and reduced personnel, trained specialized staff to deal with problem loans, and increased its attention to consumer and commercial loans while restricting its attention to housing and real estate lending.

General Bancshares

General Bancshares showed decline for the period 1970 to 1976. During the period, the bank acquired other banks. The corporation is a holding company designed solely for the ownership and management of banks, with a controlling interest in 12 banks.

Girard Company

The Girard Company's period of decline for this study was 1969 to 1975. Early in the decline, bank management recognized that the bank's low level of performance could be traced to a combination of difficult economic conditions, and problems within the bank. The bank instituted a work management program, acquired an investment group, and acquired some new branches. The bank embarked on a new program of loan diversification to increase profit margins and reduce the concentration of borrowing by major domestic corporations. The bank obtained a new leasing corporation, and some new foreign offices. The bank increased its concentration on loan criteria and pricing policy, as well as cost control. The bank made an attempt to increase its performance in local markets.

Indiana National Corporation

Indiana National experienced decline for most of the period 1972 to 1978. During this period, the bank formed a leasing company, a finance company, a property management company, a realty advisors company, and a mortgage company. It acquired a credit insurance company, and discontinued its business in mobile home services.

Philadelphia National Corporation

Philadelphia National Corporation experienced its decline in the years 1971 to 1977. During this period, the bank activated a commercial finance company, acquired a consumer finance company, and increased its holdings in a British bank. The bank adopted internal management and structural changes. Towards the later years of this decline, the bank strengthened its strategic planning process to emphasize careful market identification and allocation of resources. It adapted new procedures to promptly identify problem loans.

Security Pacific Corporation

Security Pacific endured a decline for the period 1969 to 1975. During this time, it adopted the holding company structure (1972). The corporation acquired a financial company and an investment company, and formed a leasing company. It increased its services (in part by its adoption of the Master Charge card), and expanded its business in northern California and in international markets. The corporation reorganized its corporate banking branch along industry lines.

State Street Boston Corporation

The corporation was formed as a one bank holding company to acquire the assets of the State Street Bank and Trust Company in 1970. During the years 1969 to 1975, the bank declined. Significant activities during this time included the formation of a credit company, the formation of a securities service corporation, and the formation of a financial services company. These activities were accompanied by the purchase of real estate companies, a mortgage company, and banks. The bank reorganized its structure. It reduced its investments in a problem area -- real estate.

Southwest Bancshares

This bank experienced decline during the period 1972 through 1978. During the period, the corporation acquired several companies, merged a bank into the company, and formed a life insurance company. The corporation's major businesses included commercial banking, mortgage banking, leasing, personal property management, and credit life insurance.

APPENDIX C

APPENDIX C: COMPUSTAT

Standard and Poor's Bank Compustat is a data file which records quarterly and annual performance data for major banks. The sources of this data include 10k (annual) and 10Q (quarterly) reports to the Security Exchange Commission, company annual reports, company news releases and general reports, and company contacts.

The Compustat tapes are checked systematically to assure their validity. Spot checks are performed to assure the accurate recording of data; data is compared against past data to detect fluctuations that might be due to erroneous recording; the data is checked for accuracy within parameters by crosschecking categories of data (e.g., does the closing price of a stock fall within the range of highs and lows for the stock within a certain period). As a further check, the research staff receives comprehensive training, and is assigned individual industry responsibility.

APPENDIX D

APPENDIX D: CLASSIFICATION PROBLEMS

The companies in the sample are chosen by comparing their performance in a given year against the industry's performance for that year. As of 1/1/79 the method for accounting for the industry was changed from a cash to an accrual basis; therefore, comparisons of the year 1969 to the year 1968 are not based on consistent performance measures; net income changes could be due to the accounting change, rather than actual changes in performance. Three banks in the study include the year 1969 as years of decline or turnaround. For one of the banks, the year 1969 appears in phase 1. For this particular bank, the decline during the year was so dramatic that it leaves little doubt that the year was truly a decline. For the remaining two banks, the year 1969 appears during phase 2. In one case, 1969 is a decline year, while in the other case, 1969 is a growth year. The decline is 8.4%, while the growth is greater than 20%. We can be fairly confident that the growth rate of 20% reflects actual growth. We could suspect that the decline rate is low enough to justify the argument that the change was not due to an actual performance change, but rather to the accounting change. If this objection is true; the bank in question would change from an inconsistent turnaround (that is, a member of the impure turnaround group) to a pure turnaround bank. This change would not impact the results of the study in any significant way, since pure turnaround banks are also included as members of the impure group.